The impact of board processes on board role performance and effectiveness: An empirical study of UK listed companies

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This work or any part thereof has not previously been presented in any form to the University or to any other body whether for the purposes of assessment, publication or for any other purpose (unless otherwise indicated). Save for any express acknowledgements, references and/or bibliographies cited in the work, I confirm that the intellectual content of the work is the result of my own efforts and of no other person.

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Date 10/11/2011

ABSTRACT

In this research the impact of board governance orientation and board processes on board role performance and board effectiveness is examined. Building on existing literature, a model that relates board governance orientation (agency, stakeholder, stewardship and resource dependency) and board processes (cohesiveness, cognitive conflict, affective conflict, communication quality, effort norms, trust and the use of knowledge & skills) to board effectiveness via three mediating variables, board control role, board service role, and board strategy role is developed. The model was tested through a survey of listed companies in the UK. The results are based on 74 companies. The findings show (a) the board undertakes two distinct roles, control and service; (b) process variables, most notably cognitive conflict and the use of knowledge & skills, significantly influence board effectiveness mediated by the board's control and/or service role; (c) structural variables, specifically the proportion of outsiders on the board, impacts on the board control role; (d) understanding board effectiveness requires a multitheoretic perspective.

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CHAPTER 1
INTRODUCTION

1.1. Outline of the Research Project

Corporate governance is a topic that has generated a large amount of interest in recent times. This interest is reflected in a variety of ways, including the increasing amount of newspaper space reporting on issues of corporate governance, the various government reports into corporate conduct and governance (e.g. Cadbury, Higgs, Combined Code, etc.), and government legislation directly relating to corporate governance (e.g. Sarbanes-Oxley Act, Norwegian Quota Law). This increasing attention has also been replicated in academic research in corporate governance with a vast amount of literature emerging over the last ten or so years. The majority of the academic research has been financial economic and taken an agency theory perspective (e.g. Dahya & McConnell, 2005; Dalton et al, 1998; Johnson et al., 2004; Shleifer & Vishny, 1997). However, agency theory has come under increasing criticism as the primary theoretical lens through which to undertake corporate governance research (e.g., Daily et al, 2003; Ghoshal, 2005; Roberts et al, 2005). In particular, researchers such as Aguilera (2005), Forbes & Milliken (1998), Lynall et al (2003), Pye & Pettigrew (2005), Roberts et al (2005) and Shen (2003), examining the role of the board of directors in corporate governance, have been critical of the extent to which agency theory assumptions and predictions are sufficient to explain board roles and performance.

These criticisms of agency theory have led to a call for alternative theories of corporate governance to be developed (Daily et al, 2003; Roberts et al, 2005). The primary alternative theoretical perspectives utilised in corporate governance research have been stewardship theory (Davis et al, 1997; Donaldson & Davis, 1991), stakeholder theory (Freeman & Evan, 1990), and resource dependency theory (Pfeffer, 1972; Pfeffer & Salancik, 1978). These different theoretical perspectives are all advancing an understanding of corporate governance yet no one theory is seen as sufficient to explain corporate governance in general, and more specifically what makes boards of directors effective. This has led to calls for a multitheoretic approach to corporate governance from various researchers working in different academic disciplines (Daily et al., 2003; Hermalin & Weisbach, 2003).

In recent years, research in corporate governance has increasingly moved away from traditional studies examining the impact of board structural characteristics on firm performance towards a greater interest in process studies, examining the impact of behaviours in the boardroom on board performance outcomes (Minichilli et al., 2009; Payne et al., 2009; Pugliese et al., 2009; Van Ees et al., 2008; Wan & Ong, 2005; Zona & Zattoni, 2007). This thesis continues this tradition by developing and testing a model, derived from the seminal work of Forbes & Milliken (1999), to examine the impact of board governance orientation and board processes on board role performance and board effectiveness. This thesis thus seeks to contribute to our understanding of board roles and board effectiveness.

Most specifically, the objectives of this research are:

- To identify gaps in existing board research by reviewing the literature;
- To develop and test a model of the relationships between board governance orientation, board processes, board role performance, and board effectiveness;
- To develop a comprehensive board governance orientation scale and board effectiveness scale in the context of UK listed companies;
- To investigate the factors affecting board effectiveness

- Derive recommendations for policy-makers and boards on how they individually and collectively can contribute to adding value to the firm.

1.2. Rationale for the Study and the Contribution to Knowledge

Corporate governance in general and the board of directors specifically, have seen a considerable volume of research since the empirical work of Mace (1970) who contended boards were largely rubber-stamps for senior management's decisions. The development of agency theory (Jensen & Meckling, 1976) provided a theoretical framework for a vast amount of empirical work focusing on board composition. Following the seminal paper of Forbes & Milliken (1999) there has been an increased attention to the opening up of the 'black box' of boardroom activities, primarily as a result of the equivocal findings of agency-based studies examining the relationship between board structures and firm performance using archival data sources (Huse, 2005; Minichilli et al., 2009; Payne et al., 2009; Pugliese et al., 2009; Pye & Pettigrew, 2005; Roberts et al., 2005; Ruigrok et al., 2006; Van Ees et al., 2008; Wan & Ong, 2005; Zona & Zattoni, 2007). This research continues in the recent tradition of board process studies to explore the actual workings in the boardroom through a survey based study.

Whilst there has been an increase in our knowledge about what actually goes on in company boardrooms, there is still scant evidence on the antecedents of board effectiveness (Minichilli et al., 2009; Payne et al., 2009; Ruigrok et al., 2006). Through this research, a greater understanding of what actually makes a board effective is developed. To investigate board effectiveness, a model is developed from a review of the existing literature and tested using survey data from a sample of UK listed companies obtained from the Hemscott Company Guru database.

Specifically, this study examines the relationship between board governance orientation, board governance processes, board role performance and board effectiveness.

The approach used for this study is a deductive, quantitative, positivist approach (Popper, 1959). Quantitative research is often concerned with establishing causal relationships between concepts and trying to establish that the results of a particular investigation can be generalised beyond the confines of the research location (Podsakoff & Dalton, 1987). Replication of established findings is often a key characteristic of quantitative research and is a means in which the findings applicable to other contexts may be checked (Bryman & Bell, 2007; Podsakoff & Dalton, 1987). A survey of board chairpersons was undertaken to collect the necessary data to test the model and hypotheses. Survey research is the most widely used quantitative approach in the social science field (Alreck & Settle, 2004; Bennett in Smith & Dainty, 1991; Blumberg et al., 2008; Bryman & Bell, 2007; Jobber in Smith & Dainty, 1991). A survey has the capacity for generating quantifiable data on large numbers of people who are known to be representative of a wider population in order to test theories or hypotheses has been viewed by many as a means of capturing many of the ingredients of a science (Alreck & Settle, 2004; Bryman & Bell, 2007). There is a need to do surveys on boards. Previous studies used archival data which are unable to measure the intervening processes between board structure and firm performance.

The original contribution to knowledge of this study is four-fold. First, a new measure of board effectiveness is developed and validated. Second, board role performance is found to be a mediator of the relationship between a comprehensive set of board governance processes and board effectiveness. Third, the study provides new knowledge about the workings of boards in the UK. It is one of the first empirical, quantitative studies to examine board processes and their impact on board role performance and board effectiveness using UK companies. Fourth, the study finds that

UK boards perform two principal roles, control and service. Specifically, this study intends to contribute to the existing literature in several ways.

- First, from a theoretical and empirical viewpoint, a board effectiveness scale is developed in this study. The four item construct is developed using general questions relating to the board's contribution to performance.

- Secondly, the study examines the antecedents of effectiveness of boards in the UK context and thus contributes theoretically and empirically to knowledge on board performance.

- Thirdly, it provides boards and especially board leaders with information pertaining to board processes that are likely to enhance board role performance, board effectiveness and firm performance.

1.3. Summary of the Thesis Contents

This thesis contains eight chapters including the introduction. The following section provides a general summary of the content of these chapters.

Chapter 2 - reviews previous literature regarding research on corporate governance, focusing on the traditional board structure-firm performance empirical studies. It covers the primary theoretical approaches used in this research - agency, resource dependency, stewardship and stakeholder theories.

Chapter 3 - reviews previous literature on small teams and team processes that have formed the basis of the recent research on boards of directors. Drawing on the seminal model developed by

Forbes & Milliken (1999), an increasing volume of empirical studies have focussed on board processes and board behaviours and how they affect board performance. This chapter reviews the small team literature from which Forbes & Milliken develop their model, followed by a separate review of the literature on the specific processes identified in small team research. Finally, the small, yet burgeoning literature examining board processes is reviewed.

Chapter 4 - develops the conceptual model and hypotheses to examine the relationship between board governance orientation, board governance processes, board role performance and board effectiveness.

Chapter 5 - presents the methodology of the thesis. This study was based on a quantitative approach. The sample frame was derived from Hemscott Company Guru database. A total of 74 usable responses are obtained, making the response rate 4.64%. The chapter discusses different approaches to research methodology and reports the process of research design, sampling, questionnaire design and administration, as well as the response rate, non-response bias, common methods bias, company profiles of respondents. It also reports on the validity and reliability of the measurement model. Factor analysis and reliability analysis are utilised to develop the instruments used to test the model. Issues pertaining to the board governance orientation measurement scale are also identified.

Chapter 6 - presents the results and findings of model and hypotheses testing to examine the relationship between board governance processes, board control role performance, board service role performance, and board effectiveness. Regression analysis is employed to test the hypotheses developed in chapter 4.

Chapter 7 - discusses the findings of the analysis in relation to existing literature. Contributions to knowledge stemming from this research are identified and discussed, and it also outlines the implications for board theory and for board practice and policy.

Chapter 8 - concludes the study by highlighting the new contributions to knowledge emerging from this research. The limitations of this study are explained and directions for future study are proposed.

CHAPTER 2:

LITERATURE REVIEW: CORPORATE GOVERNANCE THEORIES ON BOARDS OF DIRECTORS

2.1. Introduction

This chapter reviews the literature on corporate governance and the board of directors in order to identify the research gap and research questions that will be used to guide this research.

There is a large body of research, both theoretical and empirical, that examines corporate governance in general, and the role of the board of directors in corporate governance more specifically. According to Jensen (1993), the board of directors is at the apex of internal control mechanisms of corporate governance. An increasing emphasis in the corporate governance literature is with the effectiveness of the board of directors. In this regard, there are largely two different approaches. The first, primarily, though not solely, drawn from agency theory is that board effectiveness is determined by the structure of the board of directors. The second and more recent approach, drawing largely on psychology theories regarding the workings of small teams contends that board effectiveness is determined by behavioural processes in the board.

This chapter will review the traditional structure-performance approach to corporate governance and is structured as follows. Section 2.2 provides various definitions of corporate governance and insight into differing corporate governance mechanisms. Section 2.3 reviews four of the principal theories of corporate governance: agency theory, stewardship theory, stakeholder theory, and resource dependency theory. This section also provides a critique of agency theory research in corporate governance. Section 2.4 summarises the traditional approaches to corporate governance and identifies their limitations.

2.2. Definitions and Mechanisms of Corporate Governance

Definitions of Corporate Governance

There are a wide variety of definitions of corporate governance. Shleifer & Vishny (1997) define corporate governance as the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment. Daily et al., (2003) define corporate governance as the determination of the broad uses to which organisational resources will be deployed and the resolution of conflicts among the myriad participants in organisations. Alternatively, Denis & McConnell define corporate governance as the set of mechanisms both institutional and market-based that induce the self-interested controllers of a company (those that make decisions regarding how the company will be operated) to make decisions that maximise the value of the company to its owners (the suppliers of capital). John & Senbet (1998) take a broad perspective by defining corporate governance as the mechanisms by which stakeholders (equity holders, creditors, other claimants who supply capital, employees, consumers, suppliers, and the government) of a corporation exercise control over corporate insiders and management such that their interests are protected. This latter definition leads John & Senbet (1998) to suggest that the ways in which stakeholders control management is the subject of corporate governance. Aguilera & Jackson (2003) suggest the lack of common definition is unsurprising given the diversity of corporate governance practices across the world. Whilst there is no common definition, most definitions take either a shareholder perspective or a stakeholder perspective to the firm. The shareholder approach to the firm contends that the primary role of a corporation is to maximise shareholders' returns since shareholders are viewed as the owners of the corporation because they provide capital for managers to use for the benefit of the shareholders (Jensen, 2002). Alternatively, the stakeholder approach takes a broader perspective to include those who have an interest in the organisation. Stakeholder theorists suggest the firm should balance the financial interests of shareholders with the legitimate interests of other stakeholder groups such as employees, customers, and the local community (Freeman, 1984; Phillips et al., 2003). Whilst there may be disagreement as to who deserves the residual rewards from corporations, both shareholder theorists and stakeholder theorists largely agree that corporate governance is primarily about the mechanisms that ensure those with a stake in the firm get a return on the profits of the firm.

Mechanisms of Corporate Governance

In addition to the various definitions of corporate governance, researchers have provided differing classifications of corporate governance mechanisms. Jensen (1983) separates the corporate governance mechanisms into internal mechanisms and external mechanisms. The internal mechanisms are primarily the board of directors and the ownership structure of the firm, whilst the external mechanisms are the market for corporate control and the law. Gillan (2006) divides internal mechanisms into five categories: 1) The Board of Directors (and their role, structure, and incentives), 2) Managerial Incentives, 3) Capital Structure, 4) Byelaw and Charter Provisions (or anti-takeover measures), and 5) Internal Control Systems. He further divides external mechanisms into five categories: 1) Law and Regulation, 2) Markets 1 (capital markets, the market for corporate control, labour markets, and product markets), 3) Markets 2 (providers of capital market information, such as equity analysts), 4) Markets 3 (accounting, financial and legal services external to the firm), and 5) Private Sources of External Oversight (media and external lawsuits). Whilst Gillan (2006) provides specific detail of corporate governance, he is similar to Jensen (1983) in identifying two broad categories of corporate governance mechanisms, internal and external. Luo (2005) provides an alternative classification of corporate governance mechanisms. He suggests that corporate governance works through three distinct types of mechanisms. These are identified as firstly, market-based mechanisms including, board composition, board size, market discipline, board chairs, executive compensation, and interlocking directorate, secondly, culture-based mechanisms including, governance culture and corporate identity, and thirdly, discipline-based mechanisms including, executive penalty, internal auditing, conduct codes, and ethics programmes.

Summary of Definitions and Mechanisms of Corporate Governance

This variety of classifications of corporate governance largely arises from the considerable number of different approaches that have been taken in corporate governance research. A variety of theories have been advanced in corporate governance from a wide range of disciplines including, economics, finance, law, organisation theory, psychology, sociology, and strategic management. The following sections will review four of the more important traditional theories of corporate governance: agency theory, stewardship theory, stakeholder theory and resource dependency theory.

2.3. Traditional Corporate Governance Theories and Empirical Studies

This section reviews the most important theories of corporate governance. There are a wide variety of theories that have been used in corporate governance, including agency theory, stewardship theory, stakeholder theory, resource dependency theory, institutional theory, social network theory and others. This section will review the literature using four of the most widely-used theories: agency theory, stewardship theory, stakeholder theory and resource dependency theory (Daily et al., 2003).

2.3.1. Agency Theory

The dominant theoretical perspective applied in corporate governance research is agency theory (Daily et al., 2003; Huse, 2005). By describing agency theory as the bible of corporate governance Huse (2005), highlights its importance in corporate governance research. Agency theory derives from economics and finance predominately as an attempt to explain the success of modern corporations despite the separation of ownership and control. Jensen & Meckling (1976) proposed agency theory as an explanation of how the public corporation would exist, given the assumption that managers are self-interested, and a context in which those managers do not bear the full wealth effects of their decisions. Since Berle & Means (1932) first gave prominence to the 'Separation of Ownership and Control' thesis within modern corporations, there had been little theoretical literature in economics that could satisfactorily explain the success of organisations where ownership and control were in the hands of different people. Agency theory takes a contractual approach to the firm (Fama, 1983; Grossman & Hart, 1986; Jensen & Meckling, 1976; Williamson, 1984), based on the premise that the modern corporation is run by managers (agents) on behalf of owners (principals) and that managers attempt to maximise their own utility rather than the utility of the owners. The agency problem occurs through the difficulties that the principal faces in ensuring that the agent acts in their best interests. In the terms of Shleifer & Vishny (1997: 741), "the agency problem in this context refers to the difficulties financiers have in assuring that their funds are not expropriated or wasted on unattractive projects." Thus, agency theory is primarily concerned with two problems occurring in the principal-agent relationship. The first is the expense involved in the principal monitoring the agent's behaviour. The second problem arises from the different attitudes of the principal and agent toward risk (Eisenhardt, 1989). In agency theory, the principal is assumed to be risk neutral, whereas the agent is risk averse (Eisenhardt, 1989). These problems lead to what Jensen & Meckling (1976) refer to as agency costs, incurred as principals/owners attempt to ensure that agents/managers act in the principals' interest. "Agency costs are therefore defined as the sum of the costs of structuring, bonding, and monitoring contracts between agents." (Jensen, 1983: 331). Agency theory then focuses on attempting to solve the above problems using a contractual approach to the firm.

In the contractual approach (Jensen & Meckling, 1976; Fama & Jensen, 1983; Williamson, 1984; Grossman & Hart, 1986), the firm is viewed as a legal fiction created by a nexus of contracts, written and unwritten, among owners of factors of production and customers. According to Alchian & Demsetz (1972), the firm is just like an ordinary market contracting between two people. Within this framework, managers and financiers sign a contract that specifies what the manager does with the funds provided by the financiers. In addition, the contract also specifies how the returns on the financiers' investment are divided between the manager and the financiers. The contract is therefore written to try and align the interests of both the principal and the agent. The key issue is the adoption of an optimal incentive scheme to align the behaviour of the managers/agents with the interest of owners/principals. According to Eisenhardt (1989), the critical issue is whether an outcome-oriented contract (e.g., stock options, transfer of property rights, market governance) is superior to a behavioural-based contract (e.g. salaries, and hierarchical governance). The determination of the optimal contract is based on the availability of complete information. If the behaviour of the agent is fully observable, a behaviour-based contract is optimal (Eisenhardt, 1989). Alternatively, when the agent's behaviour is not fully observable, an outcome-oriented outcome is superior (Eisenhardt, 1989).

Agency theory lends itself to a number of predictions that have led to a considerable body of research. Dalton et al. (2003) divide this research into two broad themes. The first they refer to as 'alignment' and the second is what they term 'control'.

The alignment view is broadly concerned with the achievement of congruence in the interests of owners and managers (Fama & Jensen, 1983; Fama, 1980; Jensen & Meckling, 1976), based on the premise that there is an inherent conflict between the interest of a firm's owners and management (Fama & Jensen, 1983). The solution to the problem of managerial self-interest is to align the interests of owners and management through compensation packages, which are based on the performance of the company, and include providing managers with equity stakes in the firm. This solution would help ensure managers' and owners' interests were more closely aligned and that by achieving this it is presumed firm performance will be improved (Jensen & Murphy, 1990). In this case, the executives' wealth should be closely and directly correlated with company performance. Without an equity investment in a firm, executives are more likely to behave opportunistically by supporting investments that further their own interests; at shareholders' expense, and to behave in a manner that further enhances their job security (Himmelberg et al., 1999). This self-interested behaviour was identified by Eisenhardt (1989) as a fundamental element of agency theory. Thus, agency theory suggests inside directors should own significant levels of company stock to ensure managers have the incentive pursue value-maximising behaviour (Seifert et al., 2005).

The control approach concerns the monitoring of firms' management and suggests concentrated shareholdings may facilitate the monitoring of managers' performance and lead to improved firm performance. According to Demsetz & Lehn (1985) the ownership shares of two types of outside owners, institutions and 'blockholders', are typically sufficiently large that these equity owners are in a position to see to it that management serves their interests and this monitoring should lead to higher profit rates.

Thus, the clear implication for corporate governance from an agency perspective is that there are adequate managerial incentives that align the interests of senior management to those of shareholders and that there are adequate monitoring or control mechanisms to protect shareholders from management's pursuit of self-interest. This is required as a consequence of the so-called agency costs of modern capitalism (Fama & Jensen, 1983). Consequently, numerous studies have examined the recommendations that arise from agency theory in terms of managerial incentives/ compensation and corporate governance controls, which are necessary in order to ensure managers act in the best interest of shareholders. These specifically relate to a wide range of internal and external matters relating to the firm, including executive compensation, the relationship between board composition and firm performance, board characteristics, capital structure, the role of blockholders, the labour market for directors, and the market for corporate control.

Executive Compensation

As identified by Core et al., (2003) and Daily et al., (2003), the call by agency theorists to align the interests of executives and shareholders has led to an increased reliance on equity-based forms of executive compensation, driven largely by stock options (Core et al., 1999). In recent years there has been a considerable variety of academic work focussing on the use of option-based compensation. In particular, there is a wide body of research examining stock option repricing (Acharya et al., 2000; Brenner et al., 2000; Carter & Lynch, 2001; Chen, 2004; Chance et al., 2000; Chidambaran and Prabhala, 2003). Other similar themes of research include stock options expensing (Carter & Lynch, 2003), measuring stock option incentives (Core & Guay, 1999; Guay, 1999; Jensen & Murphy, 1990; Johnson & Tian, 2000a), and indexing stock options (Johnson & Tian, 2000b). McGuire & Matta (2003) in a study examining the ownership and performance implications of the exercise of CEO stock options find that the exercise of stock options has no effect on the levels of CEO equity or on subsequent financial performance.

An alternative and more recent body of research has studied the association between option-based compensation and the propensity of firms to restate earnings, commit fraud, or be subject to class action lawsuits (Burns & Kedia, 2006; Bergstresser & Philippon, 2006; Denis et al., 2006; Johnson et al., 2009; O'Connor et al., 2006). In general, these papers find that higher incentives are associated with increased likelihood of firms restating earnings, or committing fraud. In this respect, as Denis et al., (2006) suggest there is a dark side to incentive compensation.

Whilst there is evidence that executives today hold greater percentages of firm equity than 30 years ago (Core et al., 2003; Daily et al., 2003), there is less clear evidence of a strong relationship between executive compensation and shareholder wealth at the firm level. A survey of executive equity compensation by Core et al., (2003) concluded that it is inappropriate to make a simple normative prescription that more equity ownership is always better than less ownership. This view that the empirical evidence does not always support agency theory prescriptions is supported by a meta-analysis of pay and performance by Dalton et al., (2003). Contrary to most of this empirical evidence is recent research from Nyberg et al., (2010) who find a much stronger link between the returns to CEOs and returns to shareholders. In treating senior executives as employee-shareholders, and looking at CEO returns rather than CEO compensation Nyberg et al., (2010) offer an alternative conceptual focus on which to consider the relationship between CEO-shareholder financial alignment. Given the recency of this finding, it is difficult to judge whether this alternative theoretical focus may change the perception of the previous findings of a weak relationship between executive compensation and shareholder wealth.

To further cast doubt on the agency theory recommendation that inside directors should own significant equity stakes in the organisation, Morck et al., (1988) warn that when managers own a substantial part of the equity of a firm, they may feel entrenched and, as a result, they may not always pursue objectives benefiting the shareholders. There is a wide body of literature studying the implications of managerial entrenchment on the likelihood of value-maximising decisions (e.g., Hu & Kumar, 2004; Ryan Jr., & Wiggins III, 2004; Stulz, 1988; Zweibel, 1996). A further similar area of research on management compensation has examined the use of 'golden handshakes' or separation pay for dismissed CEOs. Such policies act to increase management entrenchment (Yermack, 2006).

An alternative body of research on management compensation has focussed on the way various corporate governance mechanisms have influenced CEO compensation (Jiraporn et al., 2005; Khan et al., 2005; Morgan et al., 2006; Ozkan, 2007). In a study of 414 large UK companies, examining the influence of ownership and board structure on CEO compensation, Ozkan (2007) finds that active monitoring by block-holders and institutional shareholders has a negative impact on CEO compensation, and firms with a larger board size and those with a higher proportion of non-executive directors pay their CEOs higher compensation. Ozkan (2007) suggests this latter result indicates that non-executive directors are less effective monitors than executive directors. Examining the effect of institutional ownership concentration levels and CEO compensation, Khan et al., (2005) find that higher levels of institutional ownership dispersion are associated with increased levels of CEO compensation and greater use of incentive compensation. In addition, Khan et al., (2005) discovered that higher levels of CEO ownership lead to a significant reduction in options-based compensation. These findings suggest greater levels of CEO ownership leads to lower incentives-based compensation and thus is supportive of the potential implications of management entrenchment identified by Morck et al., (1988). In an investigation of the strength of shareholder rights on CEO compensation, Jiraporn et al., (2005) find that CEOs of firms where shareholder rights are stronger obtain less favourable compensation. In addition, Jiraporn et al., (2005) suggest their findings indicate that higher CEO pay is associated with higher degrees of managerial entrenchment. Based on their findings, Jiraporn et al., (2005) conclude that CEO compensation practices reflect rent expropriation rather than optimal contracting predicted by agency theory. On a similar theme, Morgan et al., (2006) examine how shareholder voting has influenced executive compensation schemes through the period 1992-2003. Their results point to changing trends in voting, such that shareholders are becoming increasingly sensitive to potentially harmful compensation plans. This finding indicates that shareholder activism is leading to less beneficial compensation terms for CEOs.

Board Composition and Firm Performance

According to agency theory, large companies require a greater number of directors to monitor and control a firm's activities. A larger board is likely to be better able to monitor agency problems because a greater number of people will be reviewing management's actions. However, agency theorists recognise that there is an upper limit to boards. Jensen (1993) suggests this limit is about eight directors, as any greater number will interfere with group dynamics and inhibit board performance.

An alternative perspective is that it is not the size of the board that matters, per se, but rather the number of outside directors on the board. With respect to board composition, agency theory suggests a greater proportion of outside directors will be able to monitor the actions of self-interested managers (Fama & Jensen, 1983; Fama, 1980). Thus, firms with higher proportions of outside directors on their board should show superior levels of performance compared with firms dominated by inside directors. Agency theorists argue that the same person should not hold the Chief Executive Officer (CEO) role and chairman role simultaneously, as this will reduce the effectiveness of board monitoring. CEO-chair duality can lead to one person having large amounts of power to influence decision-making, control board agendas and enhance management entrenchment.

Although this prediction has some intuitive appeal the empirical evidence supporting the hypothesis is less convincing. In a review of the economics literature on boards of directors, Hermalin & Weisbach (2003) suggest firstly, that board composition is not related to corporate performance, and secondly, that board composition is related to the quality of the board's decisions on CEO replacement, acquisitions, poison pills, and executive compensation. These findings suggest that whilst firms with higher proportions of outside directors do not perform better they do make different decisions. A number of more recent studies provide further support for this latter contention. Ryan & Wiggins III (2004) employed a bargaining framework to examine the relationship between director compensation and the proportion of outside (independent) directors and find that shareholders' economic interests are best served when the board remains independent. To the degree that the board remains independent, director compensation provides incentives more closely aligned with those of the shareholders. To the extent that the CEO has power over the board, the compensation structure weakens the alignment between managers and shareholders. Their results suggest that independent boards receive compensation packages that are more closely aligned with shareholder wealth maximisation. Dahya & McConnell (2005), in a study of 523 CEO appointments in UK firms over the period 1989-1999 find a significant positive correlation between the likelihood of an outside CEO appointment and the fraction of outside directors on the board. The results of Dahya & McConnell (2005) indicate that increasing the representation of outside directors on the board is likely to influence one of the key decisions of boards, that of the appointment of inside or outside CEOs.

A variety of approaches have been utilised by researchers examining the link between board composition and firm performance. The first method has been to examine correlations between accounting measures of performance, such as return on capital employed (ROCE) and the proportion of outside directors on the board. A number of studies have used this approach and found insignificant relationships between accounting performance measures and the proportion of outside directors on the board. (Bhagat & Black, 2001; Daily & Johnson, 1997; Dalton et al., 1998; Hermalin & Weisbach, 1991; and Peng, 2004). In his research using 405 publicly listed companies in China, Peng (2004) finds some evidence that outside directors do make a positive effect on sales growth, but not on financial performance using accounting measures. Peng (2004) contends that institutional theory can be used to explain the increase in the number of outside directors on boards, arguing that increases in the representation of outside directors is merely a result of attempting to comply with institutional pressures. A second approach has been to use Tobin Q as a performance measure. Here again the empirical work of Hermalin & Weisbach (1991) and Bhagat & Black (2001) finds little support for the relationship between outside directors and firm performance. A recent study by Coles et al., (2008) provides further evidence to doubt the importance of outside directors. They find that Tobin Q increases with the proportion of inside directors for R&D intensive firms, thus challenging the notion that firms with more insiders perform worse than those with more outsiders. A third method undertaken by Bhagat & Black (2001) examines the effect of board composition on long-term stock market and accounting performance and similarly to the other methods find little to support the hypothesis that firm performance is related to the proportion of outside directors on the board.

Whilst this empirical evidence appears powerful in its opposition to agency theory predictions, there are a number of issues to consider before such a conclusion can be reached. The first issue is the definition of inside and outside directors. Most of the empirical research has attempted to capture the independence of outside directors, but there have been various definitions of what constitutes an outside director. For example, Weisbach (1988) classifies directors as inside, outside or grey, with grey directors being those directors who are not employees or managers, but who may not be independent of current management because of business dealings or family relationships. Similar to the grey classification is the affiliated directors category used by Johnson et al., (1996) and Pearce & Zahra (1992). Affiliated directors include those who have business dealings with the firm, or have relatives of current or former executives or employees. Daily & Dalton (1994) provide a further refinement of the outsider classification, defining an outside director as ones who were appointed to the board prior to the incumbent chief executive. Given the importance placed on independence of the board in agency theory, this lack of clear definition of what it means to be an outside director does create difficulties in measuring the effect of board composition on firm performance. Some authors suggest that 'independence of mind' is the key attribute rather than a notional measure of independence (Roberts et al., 2005; Zattoni & Cuomo, 2010).

The second issue is the endogeneity of board composition. Hermalin & Weisbach (1998) suggest that firms which perform poorly are more likely to appoint outside directors. In a cross-sectional study, this effect is likely to make firms with more outside directors look worse because this effect leads to more outside directors on firms with historically poor performance. However, the research by both Hermalin & Weisbach (1991) and Bhagat & Black (2001) has attempted to mitigate for this particular problem by using simultaneous equation models in which they used lagged performance as an instrument for current performance. Even with the corrections for the identified endogeneity the results from both studies fail to show an empirical relationship between board composition and firm performance.

The third issue is one argued by MacAvoy & Millstein (1999) and is that the findings between measures of board independence and firm performance have used data preceding the time boards take a more active role. To support their point MacAvoy & Millstein (1999) find evidence that the California Public Employees' Retirement System (CalPERS) grading of board procedures, as a proxy for board independence, is positively correlated with accounting-based measures of performance. To a large extent, as Hermalin & Weisbach (2003) suggest, one can only presume that MacAvoy & Millstein's contention can only be proven using more recent data.

A fourth issue relates to the performance measures used in the empirical research. As Hermalin & Weisbach (2003) point out firm performance as measured by accounting or economic measures is likely to be a function of many different factors, of which board performance is only one. Helland & Sykuta (2005) use a different measure of performance to determine board performance than firm performance. They consider the effect of board composition on the probability a firm will be sued by shareholders. They find that firms that are defendants in litigation have higher proportions of inside directors on their boards. Helland & Sykuta (2005) conclude that the results suggest that boards with higher proportions of outsiders do a better job of monitoring management. However, this result could also simply arise due to the fact that shareholders are more likely to bring litigation if they believe the board is insufficiently independent and therefore be less likely to take action when there are more outside directors on the board. This may simply be because they perceive boards with more outside directors to be acting in the interest of the shareholders whether they are or not.

Other similar research has explored how board composition has influenced various board decisions, including the appointment of a new inside or outside CEO, levels of CEO compensation, mergers, research and development (Gillette et al., 2003; Henry, 2004). A further stream of research into board composition has examined whether boards with more inside directors are more likely to engage in earnings management (Park & Shin, 2004; Xie et al., 2003). This body of research provide little empirical support for the benefits of more outside directors.

To sum up, the majority of empirical research fails to support the prediction that firms with a higher proportion of outside directors will outperform those firms with a lower proportion. However, there is a considerable body of evidence that suggests firms with more outside directors make different decisions. A conceptual paper by Drymiotes (2007) provides an innovative angle on why an insider-dominated board might make better monitors than outsiders. This is not solely due to information asymmetries that may exist between insiders and outsiders, but also according to Dymiotes (2007) because boards with more inside directors have greater incentives to monitor agents ex post. This is an interesting idea that could explain the lack of evidence supporting the benefits of more independent boards, and one that requires empirical testing.

A further aspect of board composition that has been the focus of a considerable amount of empirical work is the roles of the chair of the board and the chief executive officer. Jensen (1993) contends that the same person should not hold the Chief Executive Officer (CEO) role and chairman role simultaneously, as the board cannot undertake one of its principal functions that of evaluating and hiring CEOs. Similarly, Fama & Jensen (1983) argue that concentration of decision management and decision control in one person gives this person too much power and consequently lowers the effectiveness of board monitoring. Evidence from a study by Goyal & Park (2002) provides supporting evidence for the proposition that the roles should be separated. In a study of CEO-Chair duality, they find that the sensitivity of CEO turnover to firm performance is significantly lower when the CEO and chair duties are vested in the same individual. Goyal & Pak (2002) suggest that their results are consistent with the view that CEO-Chair duality makes it difficult for boards to remove poorly performing managers. However, Brickley et al., (1997) advance an alternative perspective and that is separating the CEO and chair of the board will create costs and these will outweigh the benefits of separation. Using a survey of 737 firms in 1988, Brickley et al., (1997) find evidence supportive of a unitary leadership structure. They advance four principal reasons to support their argument. First, there are additional costs of separating the CEO and the chair. These include agency costs of controlling the behaviour of the chairman, information costs, costs of having firms change their succession processes and costs relating to inconsistent decision making. Second, they find that chairs are often former CEOs within the company and thus have detailed knowledge of the company and relatively high stock ownership. Brickley et al., (1997) suggest this is consistent with the hypothesis that the potential agency and information costs are important determinants of leadership structure, and that the titles are separated only when these agency and information costs are low. Third, they find evidence of passing-of-the-baton succession process where firms employ the title of chairman as a reward for CEOs who perform well. They suggest that separation of the titles would force firms to find different incentive schemes for top management. Fourthly, they find evidence that unitary leadership structure is associated with superior accounting and market returns. The Brickley at al., (1997) findings provide some support for stewardship theorists advocating CEO-Chairman duality, which will be discussed further in section 2.3.2. Summing up, it would appear that the evidence is not overwhelmingly supportive of the contention that the roles of CEO and Chair should be separated.

Multiple Board Appointments

The majority of the initial research on boards of directors has examined the effect of board size and structure on firm performance and no consistent findings have been obtained (Daily et al., 2003; Hermalin & Weisbach, 2003). An alternative body of research focuses on the impact of multiple board appointments. Fama & Jensen (1983) contend that multiple board appointments can signal director quality. The appointment to numerous boards might be the result of the superior performance enjoyed earlier by the firm for which the individual serves as a board member, either as an outsider or an executive. Assuming there is a market for directors, then logically it follows that firm success can generate additional offers of board employment. Following Fama & Jensen (1983), there has been a variety of research examining the market for directors. Gilson (1990) suggests the number of directorships held by a director might act as a proxy for reputational capital, with persons holding multiple directorships being a signal of high quality. Theoretical support for this proposition is provided by resource dependency theory, as serving on multiple boards allows firms access to a wider range of resources, such as expertise and advice from individuals with wide experience (Pfeffer & Salancik, 1978). This will be further discussed in section 3.2.4.

Empirical support for Fama & Jensen is provided by Ferris et al., (2003) who find that firm performance has a positive effect on the number of appointments held by a director. Furthermore, Ferris et al., (2003) find that busy boards do not harm shareholder wealth. Keys & Li (2005) offer a similar conclusion. They characterise outside directors who sit on a number of boards at the same time as professional directors and find that after a takeover, professional directors are three times more likely to receive new appointments than other types of directors. In addition, they find that the proposition of professional directors in above-average performing targets is significantly greater than that in under-performing targets. This they suggest indicates that professional directors have valuable general human capital. Fairchild & Li (2005) provide further support for the signalling of director quality hypothesis. In a study of hostile takeovers, they find that directors of above average quality are related to hiring firms with above average post-takeover performance. However, the results from Fich & Shivdasani (2006) provide an opposite conclusion. They find that firms with busy boards, which are defined as those boards in which a majority of outside directors hold three or more directorships, are ineffective monitors of management. Their results show firms with busy boards exhibit lower market-to-book ratios, weaker profitability, and lower sensitivity of CEO turnover to firm performance. Supporting the findings of Fich & Shivdasani (2006) is research by Core et al., (1999) which reports that busy directors set excessively high levels of CEO compensation and this in turn leads to poor financial performance.

A similar research theme is provided by various studies on board interlocks, defined by Fich & White (2005) as the phenomenon whereby a person is on the board of directors of two or more corporations, thereby providing a link or interlock between them. Dooley (1969), in one of the first studies on interlocking directorates, accounted for the frequency of interlocking in terms of economic considerations. He undertook a comparative study of interlocking directorates of the top 200 US non-financial and 50 financial corporations between the years 1935 and 1965 and found a slight increase in interlocking directorates in 1965 compared with 1935. He suggested that there were five principal reasons for the occurrence of interlocking directorates: (1) the size of the corporation; (2) the extent of management control; (3) the financial connections of corporation; (4) the relationship with competitors; and (5) the existence of local economic interests. Dooley (1969) concluded that his findings supported the view that external interests on the board limited managerial autonomy. Supporting Dooley's conclusion with regard to external interests on the board is a study by Pfeffer (1972). In a study of 80 US corporations, Pfeffer (1972) found that board size and composition were related to factors measuring the organisations' requirements for co-opting sectors of the environment. Mizruchi & Stearns (1994) provided similar findings. In their longitudinal study of 22 major US corporations, they discovered that interlocks are strongly determined by the economic condition of the environment at the time. Declining solvency of firms was likely to lead to increased linkages with financial institutions and firms that required additional capital were found to appoint directors of financial institutions to their board of directors.

In a study on joint ventures between firms, Gulati & Westphal (1999) found that the mere presence of a board interlock tie between firms does not predict the strategic alliances between firms. In summary, they suggest that interlock ties may either increase, or decrease, the likelihood of alliance formation, depending on the nature of the CEO-director relationship that underlies the tie. Gulati & Westphal (1999) contend that board monitoring of managers creates distrust between companies, whilst CEO-board co-operation in strategic decision-making and alliance formation enhances trust.

Useem (1982) examined interlocking directorates as a network of corporate elites (senior managers and directors of large corporations) in the United States and Great Britain. According to Useem (1982), the overriding concern of the corporate elite is corporate profitability and interlocks are the mechanism to strengthen the elite. In a further study of managerial elites, Pettigrew (1992) found that interlocks were important in reducing information uncertainties created by resource dependencies between firms.

An alternative trend in studying interlocks has been to examine relationships between the number of board interlocks and CEO pay (Core et al., 1999; Geletkanycz et al., 2001; Fich & White, 2003; Hallock, 1997). The results of these studies have been mixed. Hallock (1997) found that CEOs serving in employee-interlocked firms earn higher salaries than they would otherwise do. However, similar to Core et al.,'s (1999) findings, Hallack (1997) does not find any association between director interlocks and total compensation. Geletkanycz et al., (2001) report similar results in their study testing the relationship between CEO external directorships and CEO pay using a sample of 460 Fortune companies. They found the positive relationship between CEO external directorships and CEO compensation is weak. However, Geletkanycz et al., (2001) also found that firm diversification moderated the relationship. Alternatively, Fich & White (2003) report a significantly positive relationship between the number of interlocking directorships and the compensation that CEOs derive from executive stock options. This latter finding suggests CEOs benefit from interlocking directorships. This view is supported by the empirical findings of Fich & White (2005), who contend that CEO interlocks primarily benefit the CEOs rather than the shareholders.

Alternative studies on board interlocks find the number of interlocks is positively related to market size (O'Sullivan, 2000), and that board interlocks are positively or negatively related to involvement in strategic decision-making (Westphal, 1999; Carpenter & Westphal, 2001; Ruigrok et al., 2006).

In summary, the literature on interlocks find mixed results for the impact of interlocks. Some evidence suggests interlocks primarily benefit management elites and negatively affect shareholders (e.g. Fich & White, 2005; Useem, 1982), whilst other evidence finds no significant impact (e.g. Core et al., 1999; Hallack, 1997).

Capital Structure and Corporate Governance

According to Jensen (1986), debt mitigates the agency costs of free cash flow. The argument here is that debt can act as a self-enforcing governance mechanism. Issuing debt acts as a control mechanism on managers, forcing them to generate cash to meet interest and principle obligations (Grossman & Hart, 1986; Jensen, 1986). Subsequently, a number of papers have examined the relationship between capital structure and corporate governance. Shleifer & Vishny (1997) discuss the role of debt and equity in governance in considerable detail, and John and John (1993) focus on the link between capital structure and management compensation. A more recent paper by Ashbaugh-Skaife et al., (2006) finds that firms with strong corporate governance benefit from higher credit ratings than firms with weaker corporate governance.

On a similar theme, Bryan et al., (2006) examine the link between management compensation and agency costs of debt and equity. They suggest that contracting theory predicts that greater equity-related compensation will decrease the agency problems of equity, but may exacerbate the agency problems of debt. Using a sample of 1623 firms with at least one year of data between 1992 and 1999, Bryan et al., (2006), employing a Tobit model, find that agency costs of debt declined and agency costs of equity increased in the 1990s. They contend that firms became more difficult to monitor in the 1990s and this explains the increase in agency costs of equity. Bryan et al., (2006) conclude that their findings explain why there has been an increase in the use of option-based compensation.

In a paper examining the cost of debt financing and anti-takeover measures, Klock et al., (2005) find that strong anti-takeover measures lower the cost of debt financing. This finding enables Klock et al., (2005) to suggest that anti-takeover measures are viewed favourably in the bond market.

In summary, evidence on the relationship between capital structure and corporate governance is mixed. A number of studies find the use of debt benefits shareholders (e.g. Grossman & Hart, 1986), whereas other studies contend that debt is only beneficial where shareholders' interests are protected (e.g., Ashbuagh-Skaife et al., 2006).

The Role of Blockholders

This section discusses the importance of ownership structure to corporate governance. The previously referred to control approach of Dalton et al., (2003) concerns the monitoring of firms' management and suggests concentrated shareholdings may facilitate the monitoring of managers' performance and lead to improved firm performance. If shares are widely dispersed, then shareholders are unlikely to have much incentive to monitor management. According to Hart (1995), monitoring has the characteristics of a public good: "if one shareholder's monitoring leads to improved company performance, all shareholders benefit" (Hart, 1995: 681). As monitoring is likely to be costly, both financially and in time, Hart (1995) suggests that each shareholder is likely to free-ride in the expectations that other shareholders will do the monitoring. This is likely to mean that no, or virtually no, monitoring will take place. This view expressed by Hart (1995) is suggestive that monitoring of managers is therefore more likely to take place with more concentrated shareholdings.

According to Demsetz & Lehn (1985) the ownership shares of two types of outside owners, institutions and "blockholders", are typically sufficiently large that these equity owners are in a position to see to it that management serves their interests and this monitoring should lead to higher profit rates. Tadesse (2004) suggests a primary function of financial markets is facilitating responsible governance within the firm. In a world of uncertainty and incomplete contracting, problems of imperfect information and moral hazard may prevent first-best value maximising behaviour by agents. Markets and institutions mitigate the consequences of imperfect information and moral hazard by producing information and facilitating monitoring (Tadesse, 2004). Furthermore, according to Khan et al., (2005), large institutional investors can and will monitor agents. Large institutional investors have the incentive to exercise closer oversight and control of management and corporate decision-making in order to reduce agency costs and protect shareholder wealth (Ingley & van der Walt, 2004; Khan et al., 2005). It is therefore suggested that institutional monitoring of management will reduce agency costs.

More evidence from Wu (2004) provides some support for the contention of Demsetz and Lehn (1985) that blockholders can ensure managers serve their interests rather than their own. Wu (2004) using extant research investigated the effects of legal mechanisms and shareholder activism on corporate governance. Wu (2004) examined how The California Public Employees' Retirement System (CalPERS) influences public opinion by publicly naming the companies having poor corporate governance. Wu (2004) found that companies are more likely to decrease the number of inside directors after being publicly named by CalPERS. In addition, departing inside directors are less likely to take up future directorships after their companies are named publicly by CalPERS. Furthermore, the likelihood of CEO dismissal increases and the relation between performance and CEO dismissal becomes stronger after CalPERS name companies publicly. These findings enabled Wu (2004) to conclude that CalPERS influences public opinion and that reputation concerns are effective in compelling companies to improve their corporate governance system.

The findings of Wu (2004) are given further support by a variety of empirical studies examining the effects of institutional activism using CalPERS (Anson et al., 2003; English et al., 2004; Smith, 1996; Wahal, 1996). These studies find that CalPERS activism consistently leads to short-term positive returns associated with performance related targetings, "the CalPERS effect" (Nelson, 2006: 188). These findings suggest that institutional activism has a positive impact on shareholder returns at least in the short run. Contrary to these results, Nelson (2006) finds no

CalPERS effect. Nelson (2006) contends that, whereas, there was a clear CalPERS effect shown in the earlier studies of Smith (1996) and Wahal (1996), he questions the findings of the more recent studies of Anson et al., (2003), and English et al., (2004). Nelson (2006) argues that once adjustments are made for methodological issues in the more recent studies, then there is no evidence to support the persistence of a CalPERS effect.

The findings of Nelson (2006) may partly be explained through the suggestion that the involvement of institutional investors is not necessarily costless in agency terms (Ingley & Van der Walt, 2004). Institutional investors often play a dual role as principals and as agents with a fiduciary responsibility to their beneficiaries and are thus potentially conflicted in serving as both owner-shareholders and intermediaries. Ingley & Van der Walt (2004) advance an associated governance issue. They suggest that because most fund managers in institutions are short-term speculators, not long-term owners, they face a conflict of interest when fund managers' largest clients are firms that comprise the corporate investment pool. This view is supported by Monks's (2002) contention that the fund industry is a "web of mutually self-supporting interests" and highlights "the conflicts of interest that envelop the institutional ownership world" (Monks, 2002: 119). Further, empirical evidence from Faccio & Lasfer (2000), in a study of occupational pension funds in the UK found that firms that hold large stakes added little value or force the firms to comply with various governance codes. This enabled Faccio & Lasfer (2000) to conclude that institutions are not necessarily good monitors.

Seifert et al (2005) in a study of the effects of equity ownership by insiders and equity ownership by block-holders and institutions on performance using a sample of firms from the US, UK, Germany and Japan find no consistent pattern between equity ownership by owners and performance across the four countries. This may partly be explained by the different definitions for insiders, block-holders, and institutions across the four countries. Seifert et al (2005) conclude that their findings may suggest the relationship between equity ownership and performance is weak. However, they go on to suggest that the results may be location dependent and that local laws or governance practices may influence the outcome. The national differences in the strength of block-holders are further highlighted by Zattoni & Peterson (2011), who find significant differences in block-holdings between continental Europe and the UK.

Whilst there has been a variety of research on block-holders, a number of papers have reported potential problems with block-holder data from CDA Spectrum (now Thomson Financial) and that using such data may lead to considerable bias in research findings (Bhagat et al., 2004; Dlugosz et al., 2006). Moreover, Dlugosz et al., (2006) argue that using uncorrected block ownership data as an independent variable can result in significant errors-in-variables biases. Consequently, they contend that it is necessary to use clean data when using block-holder data as the independent variable and that research not doing so can be viewed as invalid.

In summary, the results on the impact of block-holders is equivocal. The findings of various research (e.g., Khan, 2005; Wu, 2004) contends that block-holders have beneficial effects on firm performance. Alternative research (e.g. Nelson, 2006) is less supportive of a positive relationship between block-holders and firm performance. There is also evidence of significant variances across countries in the degree of block ownership which suggests the possibility of national institutional influences.

Labour Market for Directors

Labour market literature on corporate governance focuses on CEOs, the board of directors and senior executive teams. Agency theory writers argue that labour market forces and directors' reputation concerns have a disciplining effect on managers and board of directors (Jensen & Meckling, 1976; Fama & Jensen, 1983). Good performing CEOs or other executives or non-executive board members enhance their prospects of positions at larger firms, or promotion, or board seats at other companies at some point in the future. Alternatively, poor performance is liable to be punished with job loss and lowering of prospects of obtaining new positions.

In developing a theoretical model of the supply of executives for outside directorships, Conyon & Read (2006) explain why firms allow their executives to accept outside directorships and determine whether outside directorships enhance shareholder value. The model considers the costs and benefits facing both the firm and the executive when the officer accepts an external directorship. A key assumption underpinning the model is that accepting outside directorships alters the CEO's effect on the value of the executive's firm. The potential benefit to the executive's firm is an improvement in the quality of the CEO. The costs include the opportunity cost of the CEO's time. The model illustrates that executives will choose to spend more time on external directorships than is optimal for the CEO's firm (Conyon & Read, 2006).

There has been a relatively large volume of empirical work focussing on the association between firm performance, CEO turnover, governance, and organisational form (Berry et al., 2006; Dahya et al., 2002; Goyal & Park, 2002; Heaney et al., 2007). In an examination of CEO turnover to firm performance, Goyal & Park (2002) find that those firms with a separation of the CEO and chair have higher CEO turnover when performance is poor than firms with CEO-Chair duality. Berry et al., (2006) report that CEO turnover is more sensitive to firm performance in focussed firms than in diversified firms. On a similar theme, using a sample of 9817 firms from 52 countries, Heaney et al., (2007) report that there is a positive relationship between prior period firm performance and changes in the size and stability of the board of directors. This suggests that board size and stability are sensitive to firm performance and according to Heaney et al., (2007) indicates that corporate governance works effectively. In related work investigating succession planning, Naveen (2006) finds that a firm's propensity to promote an internal candidate to the post of CEO is related to firm size, diversification, and industry structure. Further, succession planning is associated with a higher probability of inside and voluntary succession, and a lower probability of forced succession. Interestingly, Naveen (2006) reports that there is little evidence that succession planning leads to managerial entrenchment. In an examination of how succession planning affects shareholder wealth, Shen & Cannella, Jr., (2003) find that investors react positively when the heir apparent is promoted to the CEO position and negatively when the heir apparent exits the firm before such promotion. In addition, Shen & Cannella, Jr., (2003) observe that there is a strong positive investor reaction to outside CEO promotion, and a negative investor reaction to non-heir inside CEO promotion. In alternative work on CEO succession, Agrawal et al., (2006b) contend that outsiders are handicapped in the selection process. Using a data set of more than 1,000 observations on CEO succession in large US firms over the period 1974-1995, Agrawal et al., (2006b) find that a firm is more likely to choose an insider to succeed to the CEO position where insiders are more comparable to each other, where outsiders are less comparable to insiders, and where there are more inside candidates. These results, the authors argue, are supportive of their handicapping hypothesis.

In summary, the literature on the labour market for directors tends to suggest directors can signal their quality through firm performance and that membership of better performing firms enhances executive directors opportunities for promotion and future job prospects. Some evidence (e.g. Agrawal et al., 2006b) suggests that inside directors especially benefit in terms of internal promotion. In addition, some empirical evidence suggests CEO-chair duality can lead to managerial entrenchment when financial performance is poor (Goyal & Park, 2002).

Market for Corporate Control

Additional to the predictions and studies of internal governance monitoring and controls is the prediction from agency theory that an alternative governance device can be found in a well-developed external market for corporate control. According to Fama (1980) the market for corporate control serves as a discipline of last resort, when internal control mechanisms fail. In this respect, external controls such as the market for corporate control are important as they can help reduce the costs to shareholders of the failings of internal mechanisms (Walsh & Seward, 1990). In an interesting paper, Sinha (2006) compares two different sectors, of the UK economy, in terms of the level of regulation regarding a contested market for corporate control and examines how this affects the internal mechanisms of corporate governance. The two sectors Sinha uses are manufacturing, with little or no regulatory interference, and banking, with considerable supervisory oversight from the Bank of England. Sinha's (2006) results suggest that top management turnover in banks as a disciplinary mechanism was not related to share price performance. In addition, Sinha (2006) found that outside directors were less effective in disciplining top management in banks than in manufacturing firms. These findings suggest that regulation of the market for corporate control leads to higher levels of management entrenchment and that regulation of the market for corporate control can be viewed negatively from the shareholders' perspective.

Gillan (2006) views the market for corporate control as the ultimate corporate governance mechanism. Where such a market exists, under-performing companies are liable to be taken over, thus placing incumbent management at risk of losing their position. As such, the market for corporate control is seen as imposing a necessary discipline on inefficient managers (Fama, 1980; Fama & Jensen, 1983; Jensen, 1993; Gillan, 2006). Furthermore, Holmstrom & Kaplan (2001) contend that corporate governance in the United States changed dramatically in the 1980s and 1990s due to a large wave of merger, takeover and restructuring activity. Alternative perspectives on the market for corporate control suggest that it may provide a means for inefficient managers to engage in 'empire-building' (Holmstrom & Kaplan, 2001), that it can lead to a reduction in effort by a manager as a potential takeover reduces the incentives to maximise effort in evaluating possible projects due to the possibility of being over-ruled (Haan & Riyanto, 2006).

Moeller et al., (2005) suggests that mergers and acquisitions are well-suited events for a study of the valuation effects of corporate governance structures. Using a sample of 388 takeovers announced in the 1990s, Moeller et al., (2005) finds that target shareholder control, proxied by low CEO share ownership, low fractions of inside directors, and the presence of large block-holders, is positively correlated with takeover premiums. These findings contrast with results for takeovers in the 1980s, where there is a negative relation between shareholder control and takeover premiums and enables Moeller et al., (2005) to conclude that shareholder control is beneficial in the market for corporate control. Rossi & Volpin (2004) provide a similar conclusion in a study of cross-country determinants of mergers and acquisitions in 49 countries. They suggest that a more active market for mergers and acquisitions is the outcome of a corporate governance regime with stronger legal protection for investors, thus emphasising the importance of shareholder control. This contention is given further support by Gompers et al., (2003) who, using a specially constructed Governance Index (GI) to measure the strength of shareholders rights, find that firms with stronger shareholder rights had higher firm profits, higher sales growth, lower capital expenditures, and made fewer acquisitions. In addition, Gompers et al., (2003) find firms with more anti-takeover protections tend to be more acquisitive.

An alternative line of research examines the effect of mergers and acquisitions on CEO compensation and directors' incentives. Hartzell et al., (2004) find that CEOs of firms that are acquired receive compensation in line with what they would have received had they remained in the CEO post. Harford (2003) reports that directors are rarely retained after a takeover and shows that for outside directors, the direct financial impact of a completed merger is negative. Harford (2003) finds that future directorships are related to pre-takeover bid performance, and thus argues that there is a clear cost to outside directors should they fail as monitors, forcing the external market for corporate control to act for them.

Whilst Harford (2003) examines the incentives for the monitoring for outside directors in takeover bids, Gaspar et al., (2005) assess the monitoring of institutional investors in company acquisition activity. In investigating how the impact of the investment horizon of a firm's institutional shareholders influences the market for corporate control, Gaspar et al., (2005) find that target firms with short-term shareholders, whilst more likely to receive a takeover bid, obtain lower premiums. A second finding is that bidder firms with short-term shareholders attain worse abnormal returns at the time of the acquisition announcement, and poorer long-run performance (Gaspar et al., 2005). These results suggest that firms with short-term investors have a weaker bargaining position in takeover activity. Consequently, this enables Gaspar et al., (2005) to conclude that weaker monitoring from short-term shareholders is likely to allow managers to proceed with value-reducing acquisitions, perhaps for personal benefit, at the expense of shareholder returns. In addition, they argue that long-term institutional investors prevent overbidding and value-reducing takeovers.

The market for corporate control is seen as protection for investors when internal control mechanisms fail (Jensen, 1993). Anti-takeover devices, such as poison pills and staggered boards, are thought of as being detrimental to shareholder interests (Grossman & Hart, 1988; Jensen, 1993). The majority of empirical work on anti-takeover measures supports the view that they are against shareholders' interests (Bebchuk & Cohen, 2005; Field and Karpoff, 2002; Gompers et al., 2003). The results of these papers suggest that increased use of anti-takeover measures is associated with poor financial performance. Similarly, Core et al., (2006) find that firms with more anti-takeover provisions have poor future operating profit. Interestingly, Core et al., (2006) contend that the findings suggest an association between governance and performance, though not necessarily causation. Whilst these results are all supportive of the entrenched management hypothesis of Morck et al., (1988), two papers provide contrary results to the majority of the evidence and these suggest anti-takeover measures do not necessarily lead to poor performance (Danielson & Karpoff, 2006; Rose, 2005).

In summary, the evidence is largely supportive of the negative effects of control-enhancing mechanisms which reduce the likelihood of takeovers taking place as a protection for shareholders when internal governance devices are seen as failing.

Summary and Critique of Agency Theory Research in Corporate Governance

Whilst the vast majority of the corporate governance research takes an agency theoretic approach, the evidence supporting its prescriptions are mixed. Whilst there is some support for agency theory with a variety of corporate governance mechanisms, there is increasing evidence casting doubt on the efficacy of agency theory and its associated prescriptions with regard to the crucial governance role played by the board of directors (Dalton et al., 2003; Hermalin & Weisbach, 2003). As emphasised by Roberts et al., (2005), the empirical testing of agency theory predictions discussed above show little convincing support for the theory relating to the structural characteristics of boards, and their relationships to firm performance. One of the striking features of these findings is that, despite the widely differing approaches to corporate governance as previously demonstrated by the varying definitions from different disciplinary perspectives, they are broadly similar in their lack of unequivocal support for agency theory predictions on the composition and structure of the board of directors regardless of the disciplinary perspective from which the research emerges. In their review of the economic literature on boards of directors, Hermalin & Weisbach (2003) conclude that that there is limited evidence to link structural characteristics of boards to board outcomes and firm performance. Similarly, Daily et al., (2003) in a review of the management literature fail to find empirical support for a monitoring and control approach to governance from a shareholder value perspective. Overwhelmingly, it appears that board composition is not related to firm profitability.

In addition to the lack of empirical support for agency theory predictions, there are other critiques of agency theory in corporate governance research. These critiques are various. Hermalin & Weisbach (2003) suggest that agency theory insufficiently models boards and their functions. This is for a number of reasons. Firstly, they suggest that there is an important dynamic element to the board-CEO relationship that is missing from principal-agent models. Various authors suggest the CEO-board relationship changes over time and therefore requires boards to focus on different aspects of the CEO role through the life cycle of the CEO (Lynall et al., 2003; Shen, 2003). In addition, as Hermalin & Weisbach (2003) point out, changes in the membership of the board is also likely to influence board behaviour. Secondly, according to Hermalin & Weisbach (2003), the agent (CEO) often has a say over who the principals are (board members) and this they claim complicates agency models in a way as yet to be satisfactorily resolved. This is similar to the point raised by Huse (2007) with regard to the selection of board members.

A further point along similar lines emerges from board theorists such as Forbes & Milliken (1999) and Pettigrew (1992). This criticism relates to the tendency of agency theorists to examine the impact of input variables, such as board composition, to output variables, such as board performance, without examining the processes and mechanisms that link the inputs to the outputs. Consequently, a recent trend in board studies has been to examine board behaviour directly (e.g., Forbes & Milliken, 1999; Roberts et al., 2005).

In one of the first attempts to model boards of directors, Forbes & Milliken (1999) suggest that both board characteristics and board processes influence board performance and firm performance. In developing their model, Forbes & Milliken (1999) suggest that board effectiveness is impacted by board task performance and board cohesiveness. In addition, they proffer the view that board demography, the level of knowledge and skills of board members, the level of effort of board members, the level of cognitive conflict, and the use of the board's knowledge and skills influence board processes. This is discussed further in the Chapter 3: Literature Review: Board Characteristics and Board Processes.

A second critique of agency theory relates to the assumption of self-interest. There are three facets to this critique. The first facet emerges from the advocates of stewardship theory (Davis et al., 1997; Donaldson & Davis, 1991) and that is the assumption of managers as opportunistic agents motivated by individual utility maximisation proposed by agency theory. Stewardship theorists argue that many managers are stewards whose objectives are largely aligned with the objectives of their principals. Stewardship theory will be examined in more detail later (Donaldson & Davis, 1991). Similar to this view, Hendry (2002) points out that agency theory fails to consider managerial competence. Even if managers are honest, Hendry contends that they are limited in their competence to meet shareholders' objectives. He goes on to say that in agency theory there is no recognition of this issue, merely a focus on managerial opportunism. To maximise principal interests rather than just minimise agency costs, Hendry (2002) puts forward the view that there are likely to be situations when it is more important for principals to invest resources in mentoring or training to improve managerial competence.

The second facet derives from the criticism of Hendry (2002) who contends that the assumption of managers as self-serving and opportunistic is a rather simplistic view of human nature (Daily et al., 2003). This view of behaviour is one that has dominated economics research ever since Smith (1776). As observed by Jensen & Meckling (1994) one of the primary advantages of the behavioural assumptions taken in economics is that it makes modelling simple. However, as recognised by Jensen & Meckling (1994) and by Hendry (2005) the behavioural assumptions do not adequately explain the way people behave. Whilst Hendry (2002 & 2005) argues that people are driven to some extent by self-interest, this he contends requires a comprehensive definition of self-interest. Without such a definition, altruistic behaviour could not be explained in agency terms even though such behaviour may also be self-interested. The problem with a more comprehensive definition of self-interest, as Hendry (2005) observes, is that it makes modelling behaviour more difficult. To the contrary, a much more narrow definition of self-interest is easily modelled, but is a somewhat simplistic view of human behaviour (Hendry, 2005).

The third facet is the claim that agency theory is a self-fulfilling theory (Ferraro et al., 2005: Ghoshal, 2005). The behavioural assumption of self-interest leading to the expectation that managers cannot be trusted is a self-fulfilling prophecy. Whilst it may not initially represent the true situation, it becomes the truth. According to Ferraro et al., (2005) theories espousing behaviours where people act in their self interest and are not to be trusted lead to this behaviour becomes the norm when the original assumption may have been false.

A third critique of agency theory and its predictions for corporate governance again stems from Hendry (2005) and this is the logic of agency theory predictions regarding the board of directors. Within agency theory, the principal legal mechanism for ensuring the agents (self-interested and opportunistic managers) operate in the interest of the principals (shareholders) is the board of directors. Yet, as Hendry (2005) notes, without exception the board includes the chief executive and often other executive members. Given that in agency theory the primary role of the board of directors is to monitor the actions of management, there would appear to be a logical inconsistency arising from agency theory assumptions and its predictions. Executive directors are responsible for overseeing themselves, which Hendry (2005) maintains requires selfless oversight whilst at the same time they are assumed to be driven by self-interest. According to Hendry (2005), this would suggest that from an agency perspective, boards of directors should consist solely of non-executives. On the other hand, as Hendry (2005) observes, non-executive directors on unitary boards are expected to selflessly carry out the shareholders' wishes, but to do so without any instruction, monitoring or significant incentive.

A fourth criticism of agency theory in corporate governance research is that agency theory takes a narrow view on the role of directors by emphasising the monitoring of management and fails to consider the wider role of a director including their resource, service and strategy roles (Dalton et al., 1998; Dalton et al., 2003; Daily et al., 2003). This has led a number of theorists such as Dalton et al., 1999 to advocate the application of resource dependency theory (Pfeffer & Salancik, 1978) to the study of boards of directors. Resource dependency theorists argue that the provision of resources is a function of board capital (Pfeffer, 1972; Boyd, 1990). Whilst resource dependency theory will be explored in more detail later, Hillman & Dalziel (2003) argue that combining the two perspectives of agency and resource dependency will overcome the theoretical weaknesses in choosing one approach over another. Hillman & Dalziel (2003 suggest this weakness results from the concentration of agency theorists on the incentives to monitor whilst ignoring board capital, and resource dependency theorists focus on board capital whilst ignoring incentives to monitor. Hillman & Dalziel (2003) develop their argument contending that board capital affects both board monitoring and the provision of resources and that board incentives moderate these relationships.

A fifth critique of agency theory arises from the assumption that people make decisions that maximise their utility. Hendry (2002 & 2005) contends this is only possible where people are fully competent, "If they were in any way incompetent, if they were for example apt to get confused or make mistakes that led to their taking decisions different from those that they rationally should then their behaviour could not be predicted," (Hendry, 2005: S58). Whilst as Hendry (2002 & 2005) suggests some decisions are simple to make and the level of competence required is limited, not all choices are so straightforward. Many decisions that have to be made are based on incomplete or confusing information. In addition, managers that make such decisions do not have equal levels of competence. Consequently, Hendry (2002 & 2005) questions whether managers can infallibly achieve their objectives. This bounded rationality whilst widely recognised in management literature since Simon (1957) is according to Hendry (2002 & 2005) largely ignored in agency theory, due to the complications involved in attempting to model limited knowledge and foresight.

These criticisms of agency theory have led to many calls for alternative theories of corporate governance to be developed (Daily et al., 2003, Roberts et al., 2005). These alternatives include stewardship theory, stakeholder theory, and resource dependency theory and an examination of each of these will now follow.

2.3.2. Stewardship Theory

Stewardship theory takes a somewhat contrasting view to agency theory in its approach to corporate governance. Whereas agency theory has its roots in economics and finance, stewardship theory has its roots in psychology and sociology. Here, managers are regarded as essentially trustworthy individuals who will look after the interests of the owners of the corporation (Donaldson & Davis, 1991; Davis et al., 1997). Stewardship theory derives from a view of the model of man whose behaviour is ordered somewhat differently than that which is viewed in agency theory. In stewardship theory, the model of man is based on a view that man is predominately pro-organizational and collective in his outlook whereas agency theory where man is portrayed as individualistic and self-serving. Stewardship theorists, furthermore, argue that senior executives will not disadvantage shareholders for fear of jeopardising their reputation (Donaldson & Davis, 1994). The reputation of senior executives is key here as their own utility is lowered if they are seen as not acting in the interests of the organisation.

Proponents of stewardship theory contend that superior corporate performance will be linked to a majority of inside directors as they work to maximise profit for shareholders. This is based on a view that because inside directors understand the business they can govern better than outside directors and so can make superior decisions (Davis et al., 1997; Donaldson & Davis, 1991; Donaldson, 1990). The principal rationale underlying this assertion is that since managers are naturally trustworthy there will be no major agency costs (Donaldson & Preston, 1995). Therefore, stewardship theorists contend that the board of directors should have a significant proportion of inside directors to ensure more effective and efficient decision-making. This prediction is exactly the opposite of agency theory.

Proponents of stewardship theory see CEO-Chair duality as a positive force, because there is clear leadership for the company. There has been little empirical evidence specifically examining this stewardship theory prediction. However, the results of a study by Brickley et al., (1997) discussed in section 2.3.1 provide some support for the benefits of CEO-duality.

Similar to agency theory the empirical evidence in support of the predictions of stewardship theory is mixed. Indeed Davis et al., (1997) in their development of stewardship theory of management suggest their model requires managers to choose to behave as stewards or agents and that managers' choice is dependent on their psychological motivations and perceptions of the situation.

2.3.3. Stakeholder Theory

Despite the differences in the "model of man" proposed by agency theory and stewardship theory, they share common ground as far as they accept the primacy of shareholders. Stakeholder theory, however, does not accept the primacy of shareholders and has developed a high degree of recent prominence.

Stakeholder theory addresses the issue of corporate governance in a different way. Whereas agency theory and stewardship theory are primarily based on the objective of the firm being to maximise shareholder value, the stakeholder theory of the firm suggests that the corporation's objective should be to maximise the interests of the stakeholders of the organisation. Stakeholder theory initially developed by Freeman (1984) suggests that managers should balance the shareholders' financial interests against the interests of others stakeholders such as employees, customers and the local community even if it reduces shareholder returns.

A useful framework for looking at the burgeoning literature in stakeholder theory is given by Donaldson & Preston (1995). They propose three stakeholder theory types: normative, instrumental and descriptive. Jones & Wicks (1999) explain the three-part typology of Donaldson & Preston simply. Firms/managers should behave in certain ways (normative); certain outcomes are more likely if firms/managers behave in certain ways (instrumental) and firms/managers actually behave in certain ways (descriptive). Developing this typology in more detail, the normative form of stakeholder theory primarily focuses on how organisations should manage corporate stakeholders. Phillips et al., (2003) suggest stakeholder theory is a theory of organisational management and ethics, and therefore seeks to connect the economic and moral. Jawahar & McLaughlin (2001) suggest that the normative perspective literature prescribes how all stakeholders should be treated on the basis of some underlying moral or philosophical principles. The foundation of normative stakeholder theory is usually given moral justification and drives the view that firms should pay attention to all their stakeholders and not just their shareholders.

Instrumental stakeholder theory addresses the issue between the practice of stakeholder management and the achievement of various corporate performance goals. Here the suggestion is that those corporations that effectively manage stakeholders will achieve superior levels of corporate performance. Jones (1995) through a synthesis of ethics and economics proposes that if firms contract with their stakeholders primarily through their managers on the basis of mutual trust and co-operation, they will have a competitive advantage over firms that do not. The implicit inference deriving from instrumental theory is that firms that take a stakeholder approach will outperform those that take a shareholder approach.

The third perspective deals with descriptive theory of stakeholders. Here the focus is on describing what the corporation is. According to Donaldson & Preston (1995), “It describes the corporation as a constellation of cooperative and competitive interests possessing intrinsic value”. (1995: 66). Stakeholder theory could be seen as a development of behavioural theories of the firm (Simon, 1954; Cyert & March, 1963) where there was explicit recognition of the different participants and goals of the firm were determined through a bargaining process. Behavioural theorists contended their model of the firm was closer to descriptive reality than the neoclassical profit maximising model and thus could be described as a precursor to stakeholder theory.

Freeman & Evan (1990) were the first to advocate the use of stakeholder theory as a model in which to examine corporate governance. Utilising Williamson’s transaction cost framework for analysing firms, Freeman & Evan proposed incorporating contractual theory as an analytical framework in which to examine the multiplicity of stakeholders within an organisation. According to Freeman & Evan (1990), Williamson (1984) places corporate governance centrally within the modern theory of the firm. Williamson suggested that the accordance of voting rights in a firm should be limited to those who share the residual risk of the firm and that this group consists of owners (shareholders), and only under special circumstances, managers, and suppliers. This conclusion derives from his view that the firm is seen as a governance mechanism for a set of contracts between interested parties who make economic gains through their participation in a these contractual relationships. According to Williamson, there are a variety of governance mechanisms to those parties who have a stake in the firm. The stakeholders identified by Williamson are customers, suppliers, owners, managers, employees and communities. Like stakeholder theory, Williamson's view implicitly draws upon some of the ideas in the behavioural theories of the firm of Simon (1954) and Cyert & March (1963).

Freeman & Evan (1990) suggest that the logical outcome from the Williamson approach is that stakeholders are accorded voting rights with respect to deciding how the corporation was managed. This interpretation derives from a view that the central feature of the contracts framework is the emphasis on the priority of bargaining by parties to the contract. "Once this priority of bargaining is recognized, it becomes desirable to consider a framework for the firm as a series of multilateral contracts among stakeholders" (Freeman & Evan, 1990: 354).

Stakeholder theory adds some interesting dimensions to the corporate governance debate. Shareholder based theory approaches dominated by agency theory clearly identify that we should judge a firm by its success in enhancing shareholder value. Stakeholder theory advocates a different measure of success: maximising the balanced interests of the stakeholder groups of which shareholders are just one. This approach is recognised in the model commonly found in continental European governance, usually through the legal definition of the firm. Those that oppose stakeholder approaches contend such an approach lacks one clearly defined objective function that the success of the firm can be measured, (Jensen; 1998, 2002). The use of corporate social performance (CSP) measures may be a potentially useful measure to overcome this problem (Clarkson, 1995). However, as yet there appears little usage of such measures and consequently little empirical support. Instrumental stakeholder researchers have suggested those companies that successfully manage the company in interests of the stakeholders also achieve higher levels of financial success. The suggestion is that corporations benefit financially through taking a stakeholder perspective (Jones, 1995). However, the measures used are economic. Whilst critics of stakeholder theory would concur with the sentiments that value maximisation can only be achieved by an organisation recognising the stakeholders, they suggest the lack of one determinate objective function renders stakeholder theory incompatible with value maximisation (Jensen, 1999, 2002). In a response to some of the criticisms of stakeholder theory, Phillips et al., (2003) contend that stakeholder theory is compatible with value maximisation. They suggest it is not value maximisation that is the issue, but to whom the rewards of the organisation's profits are distributed. In this way, stakeholder theory is similar to agency theory in being about value distribution as opposed to value creation (Huse, 2007).

This leads into further contention arising from stakeholder theory. A number of theorists have argued that measures of CSP and other similar concepts are dependent on a power game in terms of determining which stakeholders matter and who counts most (Trevino & Weaver, 1999). Indeed, a number of researchers have attempted to develop stakeholder theory through an identification of who are the stakeholders and who or what really counts (Mitchell et al., 1997; Rowley, 1997; Agle et al., 1999; Jawahar & McLaughlin, 2001). Using the Donaldson & Preston terminology the first question addresses the normative theory, to explain why managers should consider certain groups as stakeholders. The second question requires a descriptive theory, to explain the conditions under which managers do consider certain groups as stakeholders.

Whilst there is a considerable body of literature on stakeholder theory there is little specifically applying the theory to governance research. In an early attempt to examine the impact of stakeholder directors, Hillman et al., (2001) find some benefits of boards having board members representing different stakeholder groups. In a helpful attempt to place stakeholder theory in a corporate governance context, Hendry (2001) has criticized the normative stakeholder theory on grounds that where stakeholder theory is purported to be a theory of organisational management and ethics (Phillips et al., 2003) it bases the normative theories on an economic model of the firm. He bases his contention on the grounds that in order to be viewed as a theory of ethics, stakeholder theory requires a social model of the firm in which to analyse the stakeholder relationships.

Hendry's (2001) critique of stakeholder theorists using an economic model is analogous to a comparison between apples and pears. When you attempt to provide a theory that is moral you cannot use economic approaches to determining value. You are not comparing like with like. That stakeholder theory attempts to determine the rights of stakeholders based on a contractual aspect of economic relations is to Hendry no more than reducing stakeholders to merely economic entities. For Hendry, the consequences are such that, "the stakeholder problem then reduces to one of the division of the economic spoils of the business, and the claim that businesses should be managed for the benefit of all and their stakeholders gives rise to the obvious and apparently devastating riposte: how, then is the economic value to be divided between stakeholders?" (Hendry, 2001: 225). The problem here is that stakeholder theory cannot easily provide an answer to such a question. Shareholder theory addresses the answer; simply allocate the residual profits to the owners (shareholders). Stakeholder theory requires either a workable structure of negotiation or an introduction of non-market criteria for stakeholder responsibility. Hendry claims the former compromises the more demanding versions of stakeholder theory, whilst the latter is ruled out by the adoption of the economic model of the firm. This critique about the outcome measure of stakeholder theory is one that is supported by agency theorists such as Jensen, and would suggest that stakeholder theory is under attack from many directions. If Phillips et al., (2003) contend that stakeholder theory is about the distribution of profits the lack of measuring device to determine the apportionment of such rewards leaves questions over the validity of the stakeholder approach as a theory in the truest sense of the word.

In developing a social model of the firm, Hendry (2001) justifies the need for a different approach to an ethic of business and corporate governance on the grounds that whereas businesses are social, economic and legal constructions ethics is not primarily about economics and law, but about social relationships between moral actors. Hendry bases his model on the basis of a system of social relationships. He defines the social model as particular combination of relationships. For example, Hendry proposes that there are relationships within the board of directors, in which the CEO occupies a dual role as director and employee. He suggests that economic perspectives treat the board as shareholder-monitoring device, a view that conforms to the shareholder theory. He also adds that directors are not just monitors, but are central to the company and legally responsible for its conduct. This latter view is similar to stewardship theorists such as Donaldson & Davis. Indeed one could view Hendry's model of the firm as bringing together agency and stewardship perspectives on corporate governance and that it is primarily due to the assumptions Hendry makes in developing his model. The importance of the assumptions, not least the separation of legal, economic and social relations Hendry makes in developing his model is an area that requires further research.

Aside from the issue of whether stakeholder theory is a theory or not, there has been little empirical research testing the contention that a balanced stakeholder approach enhances financial performance. In one of the few studies that examined whether a stakeholder approach did enhance financial performance, Berman et al., (1999) found some support for the strategic stakeholder model, though not for all the stakeholders identified, but no support for the intrinsic stakeholder commitment model. This result lends credence to the arguments espoused by Jensen (1998, 2002) that stakeholder theory is consistent with value maximisation, which implies that managers must pay attention to all stakeholders that can affect the firm, as long as the measure of performance is based on a shareholder approach.

In a similarly-related stream of literature examining the link between CSR and profitability, results have been mixed. Some purported to support the hypothesis that increasing CSR raises profitability (Waddock & Graves, 1997), others stated that it makes little difference (McWilliams & Siegal, 2000), and a further group finding a negative correlation (Wright & Ferris, 1997). Whilst these results provide no clear answer as to the financial benefits of a CSR/stakeholder approach, there is increasing interest in firms and taking a a more socially responsible approach to a range of stakeholders (Kakabadse et al., 2006; McWilliams & Siegal, 2001; Prahalad & Hamel, 1994). This also has led to some interest in the contribution boards play in ensuring firms to take a more active approach to CSR and stakeholders (Kakabadse et al., 2006).

In summary, stakeholder theory provides a different angle to corporate governance than either agency theory or stewardship theory. Stakeholder theory does not consider shareholders as having primacy with regards to the distribution of the rewards resulting from organisational success. Instead the theory argues the rewards should be distributed to range of stakeholders with interests in the firm. However, little progress has been made in the theory as to the way in which the allocation of rewards should be distributed.

2.3.4. Resource Dependency Theory

Resource dependency theory is an open systems perspective that views organisations as being linked with their external environment (Pfeffer & Salancik, 1978). Whilst agency theory emphasises the monitoring or control function of the board, researchers in the resource dependency tradition concentrate on a second important board function, the provision of resources (Hillman et al.,, 2000; Pfeffer, 1972; Pfeffer & Salancik, 1978). The theoretical underpinning of this board function is based on Pfeffer & Salancik's (1978) work on resource dependency. According to Pfeffer & Salancik (1978), there are expectations from organisations of board members in terms of the resources they provide. Wernerfelt (1984) suggests these resources can be seen as anything that gives either a strength or weakness to any given firm. By linking the organisation to its external environment, corporate boards are seen as a means to manage external dependency (Pfeffer & Salancik, 1978), reduce environmental uncertainty (Pfeffer, 1972), lower transaction costs associated with environmental interdependency (Williamson, 1984), and aid in ensuring the survival of the firm (Singh et al., 1986). The primary role of the board of directors from a resource dependence perspective, therefore, is to provide resources to the organisation, act as a boundary spanner, and add legitimacy to the organisation. According to Gales & Kesner (1994), directors bring a variety of resources to firms, such as information, skills, access to key stakeholders (e.g. buyers, social groups, suppliers) and legitimacy. Similarly, Hillman et al., (2000) provide a useful classification of director category, the areas of resources each category might provide and the type of director in each category. They identify four categories: insiders, business experts, support specialists, and community influentials, each of who provides different areas of resource needs. For example, according to Hillman et al., (2000) insiders would provide expertise on the firm as well as general strategy and direction, business experts would provide expertise on competition, decision making and problem solving for the firm and serve as sounding board for ideas, support specialists would provide specialised expertise on various matters such as law and banking, provide access to a variety of external resources such as financial capital, and community influentials provide a non-business perspective and help legitimise the operations of the firm. Consequently, the logic of resource dependency is that a board's provision of resources is directly related to firm performance. In turn, this suggests that as the firm's external environment changes, the composition of the board should change to reflect the shift in resource requirements. Therefore, research dependency theory predicts a relationship between the degree of uncertainty or dependency and the composition of the board of directors. Findings from Boyd (1990), Gales & Kestner (1994), and Hillman et al., (2000) provide support for the hypothesis as firms' external environment changes, the size of the board and ratio of executive and non-executive directors on the board changes.

Pfeffer & Salancik (1978) advocate four primary benefits boards can provide to organisations: (1) advice and counsel, (2) legitimacy, (3) channels for communicating information between external organisations and the firm, and (4) obtaining preferential access to commitments or support from important elements outside the firm. Pfeffer (1972) argues that the composition of the board of directors should be a reflection of the firm's external environment. According to Dalziel & Hillman (2003), the antecedents of the board's provision of resources can be classified as board capital, consisting of both human and relational capital. They contend that board capital is linked to the provision of the four benefits identified by Pfeffer & Salancik (1978). This view is given credence by a variety of research examining the link between the four benefits (advice and counsel, legitimacy, channels of communication, and tangible resources) and firm performance. Research from the resource dependency tradition has shown boards to enhance the reputation and legitimacy of the firm (Daily & Schwenk, 1996) and be sources of advice and counsel to management (Carpenter & Westphal, 2001; Westphal, 1999). Similar to these findings, research on board interlocks have been found to play an important role in conveying information across firms (Burt, 1980), in securing access to critical resources (Mizruchi, 1996), and on the formation of joint ventures (Gulati & Westphal, 1999).

2.4. Summary of Chapter 2

This chapter has reviewed four of the most influential theories in traditional corporate governance research. These theories whilst having some differences also have a number of important similarities. They largely examine the relationship between the principal internal corporate governance mechanism, the board of directors and firm performance. In particular, all the theories primarily focus on how board structural characteristics impact on firm performance, for example. This concentration on board structure has been much criticised, especially given the limited empirical support for the relationship between board structure and firm performance (Daily et al., 2003; Forbes & Milliken, 1999; Hermalin & Weisbach, 2003; Huse, 2005; Johnson et al., 1996; Pye & Pettigrew, 2005; Roberts et al., 2005). Consequently, the traditional approach and theories of corporate governance examining the relationship between board structure and performance have been regarded as providing a limited understanding of boards and what makes boards effective (Forbes & Milliken, 1999; Huse, 2005; McNulty & Pettigrew, 1999). The traditional input-output approach has not sufficiently opened up the 'black box' to examine what actually takes place in boards (Pettigrew, 1992). This significant limitation has led to a new body of corporate governance research focusing on the board of directors as a small team and examining the board processes and behaviours affecting board performance. The next chapter will review the literature on board processes and behaviours.

CHAPTER 3:

LITERATURE REVIEW: BOARD CHARACTERISTICS AND BOARD PROCESSES

3.1. Introduction

The previous chapter reviewed the traditional structure-performance approach to corporate governance in general, and to boards of directors more specifically. This traditional input-output approach has been heavily criticised for three principal reasons. First, the reliance on an agency theoretic approach places heavy emphasis on the board control (and monitoring) role at the exclusion of other board roles such as service or strategy (Daily et al., 2003; Huse, 2005; Pye & Pettigrew, 2005; McNulty & Pettigrew, 1999). Second, the traditional approach neglects processes that link inputs and outputs and specifically how board processes influence board role/task performance (Daily et al., 2003; Minichilli et al., 2009; Pettigrew, 1992; Roberts et al., 2005). Third, methodologically there has been a reliance on archival data which fails to provide sufficient understanding of what boards actually do (Finkelstein & Mooney, 2003). These criticisms have led to an increasing body of theoretical and empirical literature exploring board processes and board behaviours over the past ten to fifteen years following Forbes & Milliken's (1999) seminal conceptual paper treating the board of directors as a small cognitive decision-making team (e.g. Huse, 2005; Minichill et al., 2009; Van den Heuvel et al., 2006; Van Ees et al., 2008; Zona & Zattoni, 2007). This chapter will review the broader literature studying group processes and the narrower literature that examines board processes and how they affect board behaviours and board performance. Forbes & Milliken's (1999) conceptual model drew upon the small teams literature and therefore this chapter will first review the small teams literature, before reviewing the literatures of the specific processes viewed as impacting upon group behaviour, and ending by examining the more limited research that specifically focuses on board processes and their impact on board role performance.

3.2. Small Groups

Prior corporate governance literature viewed the board as a black box, where inputs (structure and composition) led to outputs (firm performance). Forbes & Milliken (1999) noted that boards are in fact teams whose output is cognitive and who meet only episodically, hence, there is a need to explore intervening processes that influence team and ultimately firm performance. This thesis follows the lead provided by Forbes & Milliken (1999) by examining board processes drawing on the small group literature, hence this section reviews this body of literature. A large number of organisational researchers have identified the ability to work in small groups or teams as being a critical factor in organisational success and therefore of vital concern in organisational success (Cohen & Bailey, 1997; Marks et al., 2001; Marrone et al., 2007; Oh et al., 2006; Stewart & Barrick, 2000).

Definition

There are multiple definitions of team or work group in the literature. Table 3.1. illustrates a variety of the definitions of teams and/or work groups. It may be noted that the difference between a team and a work group is not always clear, although Katzenbach & Smith (1993) contended that teams are highly interdependent, whereas work groups have low interdependence. Barrick et al., (2007) follow this approach in viewing teams with low interdependence as working groups and those with high interdependence as real teams. A number of authors do not make such distinctions between team and work group (Cohen & Bailey, 1997; Guzzo & Dickson, 1996). Indeed, Guzzo & Dickson (1996) are somewhat dismissive about the distinction between team and work group. They argue that the difference is one of degree rather than one that is fundamental. Cohen & Bailey (1997) in their review of team work in organisations do, however, identify and define four different types of teams in organisations: work teams, parallel teams, project teams, and management teams. Firstly, work teams are defined as, "continuing work units responsible for producing goods or providing services", (p. 242). Secondly, parallel teams are broadly defined as people from different work units or jobs pulled together to perform functions that the regular organisation is not equipped to perform well. Thirdly, project teams are identified as being time-limited and producing one-time outputs. Finally, management teams are deemed as those that co-ordinate and provide direction to the sub-units under their control (Cohen & Bailey, 1997). There is a specific body of research that examines top management teams. According to upper echelons theory, organisational outcomes can be predicted from the characteristics of the top management team (Hambrick & Mason, 1984). The following reviews will specifically cite studies from the top management team (TMT) literature as these are very closely related to some of the later board studies.

Table 3-1. Definitions of Team or Work Groups

Author(s)	Definition
Marks et al., (2001: 356)	*"Teamwork is people working together to achieve something beyond the capabilities of individuals working alone."*
Hackman (1990)	*"Workgroups are intact social systems that perform one or more tasks within an organisation."*
Cohen & Bailey (1997: 241)	*"A team is a collection of individuals, who share responsibility for outcomes, who see themselves and who are seen by others as an intact social entity embedded in one or more larger social systems, and who manage their relationships across organisational boundaries."*
Guzzo & Dickson (1996: 308-9)	*"A work group is made up of individuals who see themselves and who are seen by others as a social entity, who are interdependent because of the task they perform as members of a group, who are embedded in one or more social systems, and who perform tasks that affect others."*

Model of Teams/Groups

The traditional view of teams has been one generally observed as an inputs-process-outputs (I-P-O) framework (Barrick et al., 2007; Ilgen et al., 2005; LePine et al., 2008). In an early review of the literature on the role of groups in organisations, Gist et al., (1987) provided an I-P-O model in which to integrate their findings. Their model firstly identified inputs as consisting of group structure (size, ability, personality, gender, race), group strategies, leadership, and reward allocation. Secondly, processes were identified as being made up of influence (facilitation, social impact, loafing), development (identification, team development), and decision-making (participation, alternative/information generation, alternative evaluation, consensus building, total process). Finally, outputs were seen as consisting of group performance (quantity, quality, timeliness), quality of work life of group members, and capability of working independently in the future. Given that group performance is viewed as vital for organisational success, the I-P-O framework identifies that group inputs (or factors) indirectly via group processes create group effectiveness. Drawing from this I-P-O approach small group research has taken place in three strands: (1) the impact of input (or structural) factors on performance. (e.g., Campion et al., 1993; Certo et al., 2006; Madjuka & Baldwin, 1991); (2) the impact of input (structural factors) on team processes (e.g., Amason & Sapienza, 1997; Smith et al., 1994); (3) the impact of team processes on performance (De Dreu & Weingart, 2003; Jehn, 1994; Marks et al., 2001). A more detailed examination of these three strands will now be provided in this section.

The Impact of Inputs on Team Performance

Much of the early research on groups concentrated on examining the relationship between inputs (group structure, group strategies, leadership, and rewards) on group performance (or effectiveness). Research on the effect of group structure and composition on performance, largely using Hambrick & Mason's (1984) upper echelons theory, has concentrated upon the impact of group size, diversity, and team tenure on group effectiveness.

The Impact of Group Size on Effectiveness

The theoretical perspectives and empirical evidence on the impact of group size on performance provide no unequivocal result. A number of researchers have contended that increased group size has various positive attributes. First, a larger group increases the information processes ability of a team (Haleblian & Finkelstein, 1993). Second, a larger group produces more cognitive (or task) conflict, which is largely accepted as being beneficial for group effectiveness (Amason & Sapienza, 1997). Third, larger groups are able to utilise a greater range of perspectives when evaluating problems (Haleblian & Finkelstein, 1993). Fourth, larger groups in organisations mean a lower number of total groups. It has been argued that this has a number of benefits: (i) a lower number of groups reduce the total amount of co-ordination; and (ii) a lower number of groups require fewer leaders that need to be trained (Madjuka & Baldwin, 1991).

These theoretical arguments have support from a body of empirical evidence. In a study of 72 employee involvement teams in two manufacturing firms, Madjuka & Baldwin (1991) found group size to be significantly positively related to group performance. Campion et al., (1993) found a positive relationship between group size and a variety of performance measures including, productivity, employee satisfaction, and management judgement of effectiveness. Carpenter & Frederickson, (2001) examined the relationship between top management team (TMT) size and firm performance and established that TMT size was a positive predictor of both accounting and stock market measures of performance. A number of other studies on TMTs have similarly shown that TMT size is positively associated to various firm performance measures (Hambrick & D'Aveni, 1992; Haleblian & Finkelstein, 1993; Simons et al., 1999).

An alternative theoretical perspective on the relationship between group size and performance suggests that there are disadvantages with larger groups. Specifically, larger groups have potential difficulties around areas such as communication, coordination and cohesiveness (Haleblian & Finkelstein, 1993). Supporting this contention is a number of empirical studies that report no relationship between group size and performance (e.g. Hambrick et al., 1996; Iaquinto & Frederickson, 1997). A more recent meta-analysis by Certo et al., (2006) provides evidence of a limited relationship between group size and performance. They find no positive relationship between group size and ROA/ROA, but do find a positive correlation between TMT size and sales growth.

In sum, the research examining the relationship between group size and performance is equivocal. A body of work has documented a positive relationship between team size and a variety of performance measures. Another body of work finds no significant relationship between team size and performance.

The Impact of Diversity on Effectiveness

Research on the impact of diversity on group performance has been varied. There have been studies exploring the effects of: (i) diversity in knowledge and skills (Madjuka & Baldwin, 1991; Campion et al., 1993), (ii) diversity in functional backgrounds (Carpenter, 2002; Hambrick et al., 1996), (iii) educational background (Eisenhardt & Schoonhoven, 1990), (iv) organisational tenure (Carpenter & Frederickson, 2001), (v) gender (Wood, 1987), (vi) race (Shuter, 1982), and (vii) demography (Smith et al., 1994).

Similar theoretical arguments to those provided by the effects of size pertain to the advantages of group diversity/heterogeneity. Specifically, group heterogeneity provides teams with more resources than homogenous groups. This can take the form of providing groups with multiple perspectives (Bantel and Jackson, 1989), increased levels of information (Williams & O'Reilly, 1998), and a diverse set of knowledge and skills (Madjuka & Baldwin, (1991). Various researchers have provided empirical support for the benefits of team diversity/heterogeneity. Madjuka & Baldwin (1991), for example, found that teams with greater diversity in job category in computer manufacturing evaluated their effectiveness higher than those teams with lower diversity. This, they argued, was partly down to higher skills diversity. Barsade et al., (2000) in a study of diversity in positive affect traits, in a sample of 62 top management teams in the United States, reported that there was a positive relationship between functional diversity and firm stock market returns. Smith et al., (1994), in a study of the impact of demographic heterogeneity on firm performance, found that educational diversity positively influenced return on investment and sales growth. Hambrick et al., (1996) reported a similar finding on the beneficial effects of educational diversity in a study examining the impact of top management team heterogeneity on firm performance.

Whilst there is a significant volume of both theoretical and empirical research supporting the positive effects of diversity in teams on organisational performance, there is also a body of research advocating the benefits of homogeneous teams. This is, as identified by Certo et al., (2006), primarily a result of the disadvantages of heterogeneous teams. A considerable proportion of this research examines the indirect effects of group diversity on performance by considering the negative consequences of diversity on a number of team processes, such as emotional (or relationship) conflict, communication, and group cohesiveness (Amason, 1996; Pelled et al., 1999; Smith et al., 1994; Williams & O'Reilly, 1998). More details of this research will be provided in the section investigating the impact of inputs on team processes. However, there is a smaller body of research that has found no relationship or, even, a negative relationship between group diversity and performance (Ancona and Caldwell, 1992; Michel and Hambrick, 1992). Various studies found no relationship between differing measures of heterogeneity and performance (Campion et al., 1993;

Haleblian & Finkelstein, 1993; Michel & Hambrick, 1992). These results cast doubt on the benefits of group heterogeneity and provide some support for the arguments in favour of homogenous groups. Michel & Hambrick (1992), for example, found no relationship between various measures of heterogeneity in top management teams and firm performance. Campion et al., (1993) found skill heterogeneity had no relationship with a number of group performance measures. Simons et al., (1999) reported a negative association between top management team heterogeneity and changes in both profitability and sales. Haleblian & Finkelstein (1993) in a study of the impact of top management team diversity on firm performance found negative relationships between both tenure and functional heterogeneity and firm performance. Further evidence documenting a negative relationship between top management team diversity and firm performance is provided by the findings of Smith et al., (1994). They found that experience heterogeneity was negatively related to return on investment for 53 high technology firms in the United States.

To sum up, there is no unequivocal evidence of the impact of group diversity on performance. There is a body of theory advancing the benefits of diversity and this is supported by various empirical studies. Interestingly, a study by Carter et al., (2003) on board diversity found a positive relationship between the fraction of women or minorities on boards and firm value. Conversely, there is theory in support of the benefits of homogeneous groups that is backed up by a number of studies. To further the difficulty in reaching a clear view of the impact of team heterogeneity on performance is the argument of Priem et al., (1999). They contended that much of the empirical research up to that point traded off construct validity for measurement validity, explanation for prediction, and prescription for description. Two further reasons may explain the problems of assessing the impact of diversity. First, most studies use surface measures of diversity (Nielson, 2000). Second, diversity as a concept is diverse as noted by Harrison & Klien (2007). They proposed that theoretically, diversity can be defined as variety (differences in gender or functional background), separation (differences in attitudes and values), and disparity (differences in social-status and power). Diversity-as-variety, based on information processing theories, would predict that greater variety in knowledge and skills leads to superior performance outcomes. Diversity-as-separation, underpinned by psychological theories related to homophily and similarity-attraction, would instead predict that heterogeneity in values would lead to conflicts and lack of cohesiveness which are deleterious to team performance. Finally, diversity-as-disparity, based on social theories of status and power, would similarly to diversity-as-separation predict sub-optimal team performance.

The Impact of Tenure on Effectiveness

There have been several studies exploring the relationship between team tenure and performance (Hambrick and D'Aveni, 1992; Michel & Hambrick, 1992; Smith et al., 1994). In a theoretical rationale for a direct relationship between tenure and performance, Pfeffer (1983) argued that performance would be highest after employees have been in position for a length of time long enough for them to fully understand the workings of the organisation. Applying this reasoning to groups, one can appreciate that groups work better after they have had time to work out how the group operates most effectively. Supporting this line of argument, Katz (1982) posited that increasing group tenure provides stability, and stability reduces goal conflict within groups. However, Katz (1982) found a curvilinear relationship between group tenure and performance. Katz (1982) explained this result by suggesting that groups go through three stages: (a) socialisation – where teams get to know each other and consequently at this stage the team tends to perform poorly; (b) innovation – where teams have got to know each other well enough to work together and maximise performance; and (c) stability – where teams have been together a long time and tend to be committed to the status quo, thus lacking sufficient adaptability and innovation to perform at its maximum level (Katz, 1982).

Whilst a considerable body of research points to a direct, or curvilinear, relationship between team tenure and performance, a study by Smith et al., (1994) found that tenure did not affect performance at all. These mixed results thus suggests the relationship between tenure and performance is an ambiguous one at best.

The Impact of Group Strategies on Effectiveness

There has been theoretical and empirical work examining the impact of group strategies upon performance (or effectiveness). Strategies are often seen as the way groups have designed the degree of interdependence or independence involved in order to accomplish a task (Wageman, 1995). Research in this area has principally focused on the degree to which group interdependence effects group effectiveness. In a study of interdependence on group effectiveness, Wageman (1995) found a u-form relationship between interdependence and group research. Groups were found to perform best when they had very high levels of interdependence and when they had very low levels of interdependence. On the other hand, moderate levels of interdependence (a mixture of interdependent and independent work) were likely to lead to low performance (Wageman, 1995). In an interesting finding, Wageman (1995) established that tasks influenced variables related to group co-operation, whilst rewards influenced variables related to effort. In particular, Wageman (1995) found that design of the work tasks had significant effects on co-operation, and strongly influenced group members' perceptions of their outcome interdependence. In addition, it was also found that reward outcomes heavily influenced group members' motivation. Specifically, group rewards motivated interdependent teams to work well, whilst individual rewards were seen to energise independent groups.

More recent empirical research from Stewart & Barrick (2000) reinforced the findings of Wageman (1995). Using data from 45 production teams (626 individuals) and their supervisors, Stewart & Barrick (2000) tested a model of the relationship between team structure and performance that also examined the extent to which the team strategies impacted upon group performance. Their results highlighted a significant difference between teams engaged primarily in conceptual tasks as opposed to those teams engaged in behavioural tasks (Stewart & Barrick, 2000). Specifically, for teams engaged in conceptual tasks it was found that interdependence exhibited a U-shaped relationship with team performance, whereas for teams engaged in behavioural tasks interdependence exhibited an inverse u-shaped relationship with performance (Stewart & Barrick, 2000). In addition, for the teams engaged in conceptual tasks, self-leadership was positively and linearly related with performance. This compared to the negative, linear relationship established between self-leadership and performance for groups engaged in behavioural tasks (Stewart & Barrick, 2000). The final finding was that intra-team process mediation was evident for relationships with interdependence, but not for relationships with team self-leadership (Stewart & Barrick, 2000).

The Impact of Leadership on Effectiveness

An important body of research on small groups has investigated leadership and self-leadership in groups. In a conceptualisation of group effectiveness, Hackman & Walton (1985) identify a leader's role as consisting of five primary functions: setting directions, designing the group, tuning the context, coaching and assisting, and providing resources. According to Hackman & Walton (1985), in order to carry out these functions, leaders are required to monitor the group, to diagnose and forecast the performance of the group, and to action behaviours that are focussed on successful achievement of both group and firm performance. Recent research has, however, identified the importance of team leadership originating from within teams rather than from traditional hierarchical elevation within the organisation (Carson et al., 2007; DeNisi et al., 2003; Tata & Prasad, 2004). Further, other research has identified the necessity for shared leadership within teams (Carson et al., 2007; Day et al., 2004). Specifically, using a sample of 59 consulting teams comprised of MBA students at a U.S. university, Carson et al (2007) found that shared leadership was an important predictor for team performance as rated by clients. These results support some early leadership scholars who argued for the importance of leadership as a group quality (Gibb, 1958; Katz & Kahn, 1978). Advocates of shared leadership contend that groups who have distributed leadership styles will perform better than those teams with one leader (Katz & Kahn, 1978). In a recent paper, Wu et al., (2010) found that differentiated leadership diminished group effectiveness through creating unclear leader identification and a weakening of self efficacy and group efficacy.

In a different angle to leadership, Cohen et al., (1996) compared encouraging supervisory behaviours among self-directed work teams and traditionally managed teams. They found that encouraging supervisory behaviour was a negative predictor of performance for self-directed work groups. In addition, encouraging behaviours had no significant relationship to performance outcomes in traditionally managed groups (Cohen et al., 1996). Whilst Cohen and colleagues' (1996) findings for self-directed groups were contrary to Manz and Sims (1987) self-leadership theory, it supported Beekun's (1989) meta-analysis outcome that self-managing teams perform better without supervisors. This result could also support those researchers claiming that shared leadership can provide advantages over single leadership/supervisory styles (e.g., Carson et al., 2007; Katz & Kahn, 1978).

In a meta-analysis examining network structure's effects on team performance, Balkundi and Harrison (2006) found teams with leaders who are central in the teams' intra-group networks outperform those teams whose leaders are not. This suggests leaders with stronger networks are an important criteria to team effectiveness. However, Balkundi and Harrison (2006) also found that teams that are central in their inter-group network perform better than teams less central. Given that teams that are central to networks have stronger networks, it is also likely their leaders will have stronger networks and thus, there is a question as to whether the network strength of the leader is a consequence of the leader or the group.

The Impact of Rewards on Effectiveness

An alternative body of research examining small groups has looked at the relationship between rewards and performance. The evidence on the effects of rewards is mixed. A larger body of research found no significant relationship between rewards and a variety of performance measures (Campion et al., 1993; Cohen et al., 1996; Magjuka & Baldwin, 1991; Wageman, 1995). However, a smaller number of studies found a positive relationship between rewards and performance (Cohen et al., 1996; Wageman, 1995). It is especially interesting that given the mixed set of results, studies by Cohen et al., (1996) and Wageman (1995) show both positive associations and no associations between rewards and different measures of performance. Wageman's (1995) results showed that collective rewards motivated interdependent teams and individual rewards motivated independent groups with purely individual tasks. This is an interesting finding as a number of previous studies have looked at the impact of reward allocation on group performance (Ancok & Chertkoff, 1983; Elliott & Meeker, 1984 and 1986; Tindale & Davis, 1985). Most of the literature in this area has focussed on the determinants of reward allocations to groups. As identified by Gist et al., (1987) empirical research (e.g., Elliott & Meeker, 1984; Tindale & Davis, 1985) finds that three norms are used as a basis for reward allocation: (a) an equity norm – where group members are allocated rewards based on their input, (b) an equality norm – where group members receive equal rewards, and (c) a need norm – where group members need for a reward determines their individual allocation.

Summary of Inputs on Performance Outcomes

The majority of input-performance studies have been motivated by upper echelons theory (Mason & Hambrick, 1984). The research on direct effects have produced limited results and thus an increasingly important body of research has examined the impact of inputs on team processes, which will be examined in the next section.

The Impact of Inputs on Team Processes

With an increasing acceptance of an indirect relationship between group inputs and performance, research has explored the relationship between inputs and team processes (conflict, communication, cohesiveness, group norms, trust) the intervening (or mediating) variable in the input-performance relationship.

The Impact of Team Size on Processes

Various researchers have examined the impact of team size on team processes (Hambrick & D'Aveni, 1992; Smith et al., 1994; Wiersema & Bantel, 1992). The vast majority of this research shows that larger groups adversely affect team processes, for example cohesiveness (Wiersema & Bantel, 1992), communication (Haleblian & Finkelstein, 1991), and conflict (Jehn, 1995).

In early research on team processes, Katz (1949) found larger teams to be less cohesive than small teams. Similarly, Hoffman & Maier (1961) found that large team size was negatively related to the team's ability to reach consensus, leaving them to suggest that smaller teams are more cohesive. Bantel & Finkelstein (1991) contended that increased team size leads to increased team differentiation and, as such, reduced levels of cohesiveness. Further confirmation of the negative relationship between team size and group cohesiveness is provided by Wiersema & Bantel (1992). They argued that as the size of a team grows the level of cohesiveness decreases.

Further research has examined how team size affects communication among team members. The vast majority of this research identifies an inverse relationship between team size and both, communication frequency and communication quality (Lawrence & Lorsch, 1967; Wagner et al., 1984; Zenger & Lawrence, 1989).

Researchers have also examined the effects of team size on conflict and this literature is considered in Section 3.4.

The Impact of Diversity (Heterogeneity) on Team Processes

A number of researchers have studied the effects of team diversity/heterogeneity on team processes (cohesiveness, communication, conflict, and trust). Generally, researchers have contended that team heterogeneity is negatively related to both cohesiveness and communication (Katz, 1982; Murray, 1989; O'Reilly et al., 1989; Wiersema & Bantel, 1992). Wiersema & Bantel (1992) suggested teams with people of different backgrounds, beliefs and values would have difficulties with communication. Murray (1989) observed that homogeneous groups would have fewer communication obstacles and thus communication would be of higher quality. Similar arguments regarding diversity and communication have been propounded for the relationship between diversity and cohesiveness. Specifically, according to similarity attractions thesis homogeneous groups have more similarities and less differences and thus greater cohesiveness. Consequently, a significant body of research in social psychology suggests that diversity/heterogeneity is negatively related to cohesiveness (Katz, 1982; O'Reilly et al., 1989; Smith et al., 1994).

Unsurprisingly, a few researchers have posited that team diversity/heterogeneity is directly associated with interpersonal conflict and more details pertaining to this body of research is provided later in this chapter in Section 3.4.

The Impact of Team Tenure on Team Processes

There has been a variety of literature examining the relationship between team tenure and team processes (Hambrick & D'Aveni, 1992; Michel & Hambrick, 1992). Most this research argues that longer team tenure enhances cohesiveness and improves communication. For example, in a study of top management team tenure and sales growth, Eisenhardt & Schoonhoven (1990) noted that teams who have worked together for a longer time have got to know each other better, resulting in improved communication. Taking this argument further, Keck & Tushman (1993) observed that teams do not work well until they have been working together for a while. Thus, Keck and Tushman's (1993) contention was that team tenure was directly related to both cohesiveness and communication. A number of other studies provided support for the contention that longer team tenure creates greater cohesiveness and improved levels of communication (Hambrick & D'Aveni, 1992; Michel & Hambrick, 1992).

In an interesting study of the antecedents of top management team composition in Turkey, Yamak and Usdiken (2006) found that average age and tenure were related to export orientation during the early stages of economic liberalisation, but in latter stages of economic liberalisation, firm performance was a major predictor of the two team attributes (age and tenure). This study provides a helpful departure from purely input-performance studies by examining the antecendents of inputs and taking an approach similar to the IMOI (input-mediator-output-input) examined in the section on team processes and performance.

In contrast to much of the supporting research arguing for a direct correlation between team tenure and both cohesiveness and communication, Smith et al., (1994) found that team tenure had no effect on either variable. This important result led Smith et al., (1994) to conclude that more detailed research on team history is required.

Summary of Input-Process Literature

The research examining the impact of team structure and composition variables on processes have interesting results. Larger, more diverse teams and shorter tenured teams are generally found to be less cohesive, have more communication problems and greater negative conflict than smaller, homogeneous, and longer tenured teams. These results are not very surprising, since Keck & Tushamn (1993) and Mohr & Nevin (1990) observe, teams take time to develop 'teamwork' and important processes of cohesiveness, and communication do not simply emerge immediately a work team is created.

The Impact of Team Processes on Performance

A considerable amount of small groups research has concentrated on identifying the processes (cohesiveness, collaboration, communication, conflict, effort norms, trust, the use of knowledge & skills) critical to team effectiveness (Beal et al, 2003; Guzzo & Dickson, 1996; Kiffen-Peterson, 2004; LePine et al., 2008; Rau, 2008; Wageman, 1995). The importance of processes is given substantial emphasis by Marks et al., (2001) in their taxonomy of team processes. Marks et al., (2001) contend that to understand what makes teams effective, a detailed examination of team processes is required. They further argue that one of the problems of the previous research on team process was a lack of specific definition of the construct (Marks et al., 2001). Cohen & Bailey (1997) in their review of the effectiveness of teams defined team process as, "interactions such as communication and conflict that occur among group members and external others" (p. 244). This according to Marks et al., (2001) was too general a definition and they thus provided a more specific definition of team process as:

"Members interdependent acts that convert inputs to outcomes through cognitive, verbal, and behavioural activities directed toward organising task work to achieve collective goals" (p. 357).

In the development of their taxonomy of team processes, Marks et al., (2001) separate processes from "emergent states", which are proposed to be "constructs that characterise properties of the team that are typically dynamic in nature and vary as a function of team context, inputs, processes, and outcomes (p. 357). According to Marks et al., (2001), emergent states describe cognitive, motivational, and affective states of teams, whereas processes relate to the nature of the team member interaction. Furthermore, they argue that team processes are dynamic following a recurring phase model whereby teams perform in temporal cycles of goal-directed activity, termed episodes (Marks et al., 2001). These episodes are defined as, "distinguishable periods of time over which performance accrues and feedback is available" (Marks et al., 2001: 359). This view of dynamic team processes leads to a contention that team performance is best viewed as a series of I-P-O episodes and, critically, that I-P-O models are attached to a series of episodes and sub-episodes, rather than over the life cycle of the team (Marks et al., 2001). Thus, Marks et al., (2001) suggest that the nature of team process alters as teams move back and forth between action and transition phases. It is therefore clear to Marks et al., (2001), that team process is a multidimensional construct.

Drawing on this multidimensional construct, Marks et al., (2001) developed a hierarchical taxonomy of team processes. Within a ten process dimension of team process, three separate phases are identified: (i) transition processes phase, (ii) action processes phase, and (iii) interpersonal processes phase. The third phase, interpersonal process is seen as occurring throughout the transition and action processes phases (Mark et al., 2001). In this taxonomy, firstly the transition processes phase has three dimensions: (1) mission analysis, formulation, and planning; (2) goal specification, and (3) strategy formulation. Secondly, the action processes phase has four dimensions: (1) monitoring progress toward goals, (2) systems monitoring, (3) team monitoring and back up behaviour, and (4) co-ordination. Finally, the interpersonal processes stage has three dimensions: (1) conflict management, (2) motivation and confidence building, and (3) affect management (Marks et al., 2001). According to Marks et al., (2001), this taxonomy moves the treatment of team away from its traditional consideration, as one that pursues one task at a time to achieve a single goal, to one where team is seen as working on multiple goals simultaneously and engaged in multi-task processing.

In an approach similar to Marks et al., (2001), LePine et al., (2008) in a meta-analytic study found that teamwork processes (interaction, cooperation, workload sharing, communication, conflict, mission, strategy, goal motivation, monitoring) were positively related to team effectiveness. Specifically, in a study examining the impact of interdependence on group outcomes, Wageman, identified group effort norms as helping to enhance the individual effort of group members and contributing to the performance of the group.

Ilgen et al., (2005) identify the movement away from the traditional I-P-O framework as being in common with a significant body of more recent research into team effectiveness. Ilgen et al (2005) identified three specific reasons why they view the I-P-O framework as insufficient for characterising teams. Firstly, they argue that a number of mediators between inputs and outcomes are not processes but, borrowing on the ideas of Marks et al., (2001), are emergent, cognitive or affective states. Secondly, they correctly suggest that the I-P-O framework implies a single-cycle linear path from inputs through processes to outcomes, and thus ignoring the potential for feedback loops. Finally, the I-P-O framework appears to suggest a linear progression of main effect influences from inputs to processes and lastly to outcomes. This approach would, according to Ilgen et al., (2005) ignore interactions between inputs and processes, between various processes, and between inputs or processes and emergent states (Ilgen et al., 2005).

This criticism of the I-P-O framework led Ilgen et al., (2005) to develop developed a new more comprehensive, conceptual model of teamwork. Their framework uses the term IMOI (input-mediator-output-input). The use of mediator replacing process is argued to reflect the broader range of mediators explaining variability in team performance. The use of a second input in the model is thought to identify the possibility of cyclical causal feedback (Ilgen et al., 2005). In removing the hyphens that appear in the I-P-O framework, Ilgen et al., (2005) contend this signals that the causal linkages may be nonlinear or conditional, rather than linear and additive. Using their IMOI model and based on a review of existing literature, Ilgen et al., (2005) identified three stages of teamwork: (1) the Forming Stage – the early stages of team development, based around the input mediator phase, (2) the Functioning Stage – the team develops experience working together, based around the mediator output stage, and (3) the Finishing Stage – the team completes one episode in the development cycle and begins a new cycle, based around the output input stage. In further developing their framework, the three stages identified were examined under affective, behavioural and cognitive processes (Ilgen et al., 2005).

In an earlier departure from the traditional I-P-O framework, Cohen & Bailey (1997) developed a framework that identifies input factors as having both indirect effects on outcomes via group processes and, what they term, psychosocial traits, which are defined as, "shared understandings, beliefs or emotional tone" (p. 244), and direct effects on outcomes. In this framework, firstly, inputs are identified as environmental factors, task design, group composition, and organisational context. Secondly, processes identified are conflict, communication, and collaboration. Thirdly, group psychosocial traits are identified as cohesiveness, group norms, affect, problem-solving style, certainty, and attribution biases. Finally, outcomes or group effectiveness are divided into performance outcomes, attitudinal outcomes, and behavioural outcomes (Cohen & Bailey, 1997).

In a more recent examination of the moderating effect of group interdependence on performance, Barrick et al., (2007) found that interdependence moderated the process-performance relationship for top management teams. Specifically, data from 94 top management teams in the U.S. credit union industry showed that teams with higher team interdependence had higher team and subsequent firm performance when the team had more cohesiveness and more communication. It was also shown that teams with low interdependence had higher performance when cohesiveness and communication were lower (Barrick et al., 2007).

The Barrick et al., (2007) research continues a long line of group research examining the impact of top management teams (TMTs) on organisational success. In a recent meta-analysis of TMT characteristics and firm performance, Certo et al., (2006) find a number of moderating influences limiting the direct relationship between demographic data and firm performance. Whilst the findings suggest support for three TMT demography/firm performance relationships, other results provide limited support for such an association (Certo et al., 2006). Interestingly, several TMT variables were significantly related to three strategic variables (diversification, research and development expenditure, and internationalisation). This outcome led Certo et al., (2006) to observe that TMT demographic variables influence strategic choices.

The moderate support found by Certo et al., (2006) for direct association between TMT demographic factors and firm performance provides strong support for those researchers examining processes underlying TMT decision-making. Further support for this is found in the work of Rau (2008) who found that TMT demographics had no effect on strategy change over a 3 or 5 year time period. However, Rau's (2008) findings also suggested a limited role of team processes in explaining changes in TMT strategy with only trust having a significant effect on strategy change, whilst neither task or relationship conflict were found to have any significant effects. In a valuable attempt to examine the impact of TMT process, Hambrick (1994) developed the concept of behavioural integration. This was a meta-construct that purported to capture three key inter-related elements of TMT process, including a team's (1) level of collaborative behaviour, (2) quantity and quality of information exchanged, and (3) emphasis on joint decision-making. According to Hambrick (1994), behavioural integration is shaped by CEO-, team-, and firm-level determinants. Using survey data from 402 firms, Simsek et al., (2005) tested a structural model to investigate behavioural integration by accounting for CEO-, team-, and firm-level determinants. Their results provide some revealing insights. First, at the CEO level, they found links between behavioural integration and CEO collectivist orientation and tenure. This, they suggest emphasises the importance of the CEO in shaping TMT processes and also that tenure has a positive effect on these processes. Second, at the team level, they showed that goal preference diversity is particularly significant for behavioural integration, and that whereas educational diversity is important for behavioural integration, tenure and functional diversity are not. In addition, it was shown that TMT size was negatively related to behavioural integration. Finally, at the firm-level, their results showed that behavioural integration was positively related to firm performance, negatively related to firm size, and unrelated with firm age.

In summary, the traditional approach in examining the impact of team processes on performance outcomes has taken a linear approach contending that team inputs influence processes which, in turn, directly influence team performance outcomes. However, a more recent approach developed by Ilgen et al., (2005) suggests that it is necessary to include a feedback loop whereby output variables may influence input variables and consequently processes.

Group Cohesiveness and Group Performance

With the increasing emphasis placed on the relationship between team processes and performance, an important stream of research has explored the impact of team cohesiveness on performance. Cohesiveness is generally considered to consist of interpersonal attraction, group pride, and task commitment (Beal et al., 2003). The general proposition is that, the more cohesive the group the better the performance. The logic of this argument is simple, yet powerful. When groups are more cohesive, they are motivated to work together and ensure their actions are well co-ordinated to enable them attain higher levels of performance (Beal et al., 2003). However, as observed by Beal et al., (2003), inconsistent empirical evidence has created doubts about the extent to which one can draw clear conclusions on the relationship between cohesiveness and team performance.

A significant reason for the ambiguity in the cohesiveness-performance relationship is the variety of conceptualisations of both constructs (Beal et al., 2003; Gully et al., 1995; Mullen & Copper, 1994). As correctly noted by Beal et al., (2003) a very important issue is the level of analysis. A number of researchers have measured group cohesiveness at an individual level and related them to individual performance, whereas others have treated cohesiveness as a group construct (Beal et al., 2003; Gully et al., 1995). Notably, Gully et al., (1995) found that the relationship between cohesiveness and performance was stronger when both constructs were measured at the group level.

The importance of the cohesiveness-performance relationship is underscored by the several meta-analyses that have attempted to examine the strength of the relations (Beal et al., 2003; Gully et al., 1995; Mullen & Copper, 1994). These studies have identified a number of moderators of the cohesiveness-performance relationship, including group size, level of analysis, and group interdependence. As previously noted, cohesiveness is usually described as being composed of three components: interpersonal attraction, group pride, and task commitment. However, in their meta-analysis, Mullen & Copper (1994) concluded that only task commitment was separately related to performance. In the most recent meta-analysis, Beal et al., (2003) provided an excellent critique of Mullen & Copper’s (1994) findings. Their critique identified three specific problems with the approach of Mullen & Copper (1994): (a) the use of mixed levels of analysis, (b) the use of stochastically dependent effects; and (c) the use of inappropriate regression weighting (Beal et al., 2003). These three issues provide sufficient reason to cast doubt on the findings of Mullen & Copper with regard to there being only one independent component of the cohesiveness-performance relationship.

Using Raju et al's (1991) meta-analytic procedures, with a random effects model, Beal et al., (2003) found that all three components of cohesiveness (interpersonal attraction, group pride, and task commitment) were independently related to performance. There were differences in the magnitude between the mean effects of each component, but none of the differences were significant (Beal et al., 2003).

Whilst the results of the meta-analysis on the components of cohesiveness is important, the significant finding of Beal et al., (2003) was the stronger correlations between cohesiveness and performance when performance was defined as a behaviour, rather than as an outcome, and assessed with efficiency measures, rather than effectiveness measures.

To sum up, there have been mixed empirical results in the studies of the cohesiveness-performance relationship. However, some of these results are due to a wide variety of conceptualisations of both the cohesiveness and performance constructs. Most important, there have been different level of analyses used across various studies. In general, cohesiveness has been accepted as a multi-dimensional concept, consisting of three components (interpersonal attraction, group pride, and task commitment). Finally, even acknowledging these methodological issues, most researchers accept the likelihood of there being some relationship between group cohesiveness and performance.

Summary of Small Team Literature

There has been a wide variety of literature examining small teams or groups. The majority of studies follow an input-processes-output (I-P-O) framework in which processes may be viewed as mediating the relationship between team structural characteristics (inputs) and performance (outputs). More recently, recognition of a feedback loop has moved the literature on into providing an alternative framework of analysis. The input-mediator-output-input (I-M-O-I) approach provides a more dynamic approach to studying teams and groups but is in its relative infancy in terms of empirical study. An important aspect of the small team literature that has relevance for studying boards of directors are team processes that affect team performance (or effectiveness). The small team literature identifies a variety of such processes, including cohesiveness, communication, conflict, group norms (e.g., effort norms), trust, and the use of knowledge and skills of team members. Separate bodies of literature examine three processes important to the workings of the board: communications, conflict, and trust. These literatures will be explored in the following three sections.

3.3. Communication

An important process in the workings of small groups and specifically boards of directors is communication (Huse, 2005). This is given support by Johnson (1993), who contended that communication is a primary means by which personnel reduce ambiguity, process information, and co-ordinate activities. Given the important role that communication can play, there has been surprisingly little literature exploring the role of communication in the small groups literature. The majority of the research on communication in business and management has been in marketing (Fisher et al., 1997; Massey & Dawes, 2007; Mohr & Nevin, 1990; Mohr et al., 1996).

Communication is generally treated as a multidimensional concept (Fisher et al., 1997; Gupta et al., 1986; Jassawalla & Sashittal, 1998; Massey & Dawes, 2007; Mohr & Nevin, 1990). In developing a model of communications for marketing channels Mohr & Nevin (1990) identified four facets of communication: frequency, direction, modality, and content. Frequency is simply seen as the amount of communication between organisational members, direction is the vertical and horizontal flows of communication within the organisation, modality is viewed as the medium of communication, and content is the detail of the message that is transmitted (Mohr & Nevin, 1990). In developing and testing a model of collaborative communications, Mohr et al., (1996) provided a very similar conceptualisation of communication facets: frequency, bi-directionality, formality, and non-coercive content of communication. Bi-directionality referred to two-way vertical flows of communication. Based on the modality of communication, formality referred to the formal or informal medium of communications. Non-coercive content was constructed as the use of influence strategies, in which compliance is not mediated (Mohr et al., 1996). Whilst Mohr et al., (1996) identified four dimensions of communication, Fisher et al., (1997) suggested just three: frequency, bi-directionality, and coerciveness of influence attempts. They defined communication frequency as the number of times information is exchanged over a period of time, bi-directionality as the degree to which communication is a two-way process, and coerciveness of influence attempts as "the degree to which communication references or mediates negative consequences for non-compliance" (Fisher et al., 1997:55). In a recent model of the antecedents of functional and dysfunctional conflict between marketing managers and sales managers, Massey & Dawes (2007) use three dimensions of communication: frequency, bi-directionality, and quality. First, drawing on Morgan and Piercy (1998), Massey & Dawes (2007) defined communication frequency as "the intensity of one-way information flow through media such as e-mail, memos, and face-to-face meetings" (p. 1120). Second, bi-directionality was conceptualised identically to Fisher et al., (1997). Finally, borrowing from Souder & Moenaert (1992), communication quality was defined as "how credible, understandable, relevant, and useful the information provided by the Sales Manager was for the Marketing Manager's task completion" (Massey & Dawes, 2007: 1120).

The above illustrates the treatment of communication as a multi-dimensional construct. Specifically, Mohr et al., (1996) suggested that collaborative communication results from four facets of communication: frequency, bi-directionality, formality, and content of influence. Further, Mohr et al., (1996) posit that collaborative communication relies on positive attitudes, which create an atmosphere of mutual support and respect. Thus, collaborative communication is seen as being positive. Building on this idea Lovelace et al., (2001) suggest that communication in teams can take two forms: collaborative, and contentious. According to Lovelace et al., (2001) collaborative communications primarily consist of communications where there is an, "explicit desire to find mutually beneficial solutions to whatever problems are being discussed, or negotiated" (p. 781). Alternatively, contentious communications are seen as being pessimistic, and thus less likely to lead to a positive outcome (Lovelace et al., 2001). Given the predictive positive outcomes for collaborative communications and the negative outcomes for contentious communications, there is a clear emphasis on the quality of communication. As concluded by Lovelace et al., (2001), an important dimension of team task performance is the quality of communication, and not solely the frequency. This finding reinforces the view of Mohr et al., (1996), who posited that collaborative communication is more than simply frequent communication or bi-directionality.

Dimensions of Communication

As identified above, the communications literature suggests there are different dimensions of communications. The principal dimensions are seen as communication frequency, bi-directional communication, and communication quality. An overview of these dimensions will be examined in this section.

Communication Frequency

According to theory and evidence, frequent communication can have either positive or negative effects (Massey & Dawes, 2005). Various theorists have suggested that frequent communication is beneficial, as it can reduce uncertainty, facilitate improved performance, lead to better understanding, and improve rapport within teams (Maltz, 1996, Menon et al., 1999). Some empirical evidence supports these arguments, as frequent communication has been shown to lead to project success, improve co-ordination, increase understanding, and enhance relationship effectiveness (Dougherty, 1992; Ruekert & Walker, 1987).

Whilst these studies suggest frequent communication leads to positive outcomes, some theorists contend that frequent communication can have dysfunctional effects. Various studies provide empirical support for this contention. For example, in a recent examination of the antecedents of conflict between marketing and sales managers, Dawes & Massey (2005) found that frequent communication was positively associated with dysfunctional conflict. This followed similar findings from Maltz & Kohl (1996), who found that beyond a certain level, communications were seen as low quality and of negative effect. This latter result suggests frequent communications has a curvilinear relationship with performance outcomes. A more recent study by Massey & Dawes (2007) found a similar inverse u-shaped relationship between frequency of communications and performance outcomes.

Bi-Directional Communication

In Mohr and colleagues' (1996) conceptualisation of collaborative communication, bi-directionality is treated as one dimension of a constellation of communication behaviours they term collaborative communication. Using the personal computer industry as the context for their study of collaborative communication in inter-firm relationships, Mohr et al., (1996) found that collaborative communication had a positive effect on relationship satisfaction. Similarly, Jablin (1979) found a positive association between bi-directional communication and relationship effectiveness.

A number of studies show that there is a direct relationship between levels of bi-directional communication and beneficial team outcomes, such as reducing ambiguity, facilitating dialogue, increasing functional conflict, decreasing dysfunctional conflict, and enhancing relationship effectiveness (Dawes & Massey, 2005; Fisher et al., 1997; Johlke et al., 2000; Massey & Dawes, 2007). Reinforcing this direct relationship have been various studies that suggest low levels of bi-directional communication have negative outcomes, such as creating confusion, and causing misunderstanding (Menon & Varadarajan, 1992; Menon et al., 1996).

To sum up, there is a consensus in the literature that increasing the level of bi-directional communication has positive effects. Commenting on their findings, Dawes & Massey (2005) argued that bi-directionality is an important dimension of collaborative communication, in that two-way dialogue can lower confusion and enhance levels of understanding.

Communication Quality

Unsurprisingly, both theory and evidence suggest that higher communication quality leads to positive team outcomes. The conflict literature suggests that good quality information can promote positive dialogue and thus enhance functional conflict (Eisenhardt et al., 1997; Jehn, 1995). Conversely, poor quality information can create difficulties in relationships and lead to higher dysfunctional conflict. Various studies provide support for the benefits of good quality communications and the difficulties arising from poor quality communications (Maltz & Kohli, 1996; Massey & Dawes, 2007; Menon et al., 1999).

Summary of Communications

In summary, there is a consensus in the literature that communications is a multidimensional concept. Importantly, collaborative communication is seen as having beneficial outcomes whilst contentious communications is viewed negatively. Usefully, Mohr et al., (1996) identify four facets of communication that they posit make up collaborative communication: frequency, bi-directionality, formality, and non-coercive content of communication. However, it is important to note that considerable evidence suggests that the quality of communication is key to positive team results (Eisenhardt et al., 1997; Jehn, 1995; Maltz & Kohli, 1996; Massey & Dawes, 2007).

3.4. Conflict

Introduction

Organisational conflict has been a topic of increasing interest from organisational researchers over the last thirty years. A considerable amount of this research has explored conflict in, and between, organisational groups at all levels (Amason, 1996; De Dreu & Weingart, 2003; Jehn, 1995; Jehn, 1997; Jehn & Bendersky, 2003). According to Jehn (1995), neither the theoretical perspective, nor the empirical evidence, on conflict is clear. More recent literature (Dawes & Massey, 2005; De Dreu & Weingart, 2003; Langfred, 2007; Li & Hambrick, 2005; Massey & Dawes, 2007a and 2007b; Peterson & Behfar, 2003) has further confirmed the ambiguous nature of conflict and its effect upon organisational performance. This chapter will review this theoretical and empirical work, first by looking at the various definitions of conflict, and second by examining the theoretical models and empirical results of conflict.

Definitions of Conflict

Most of the research on conflict draws on Boulding's (1963) broad definition of conflict as awareness on the part of the parties involved of discrepancies, incompatible wishes, or irreconcilable desires. From hitherto existing research, Pondy (1967) identified four definitions for conflict. Conflict had been used to describe: (1) antecedent conditions, (2) affective states, (3) cognitive states, and (4) conflictual behaviour. From this categorisation, Pondy (1967) developed a definition of conflict based on a history of conflict episodes consisting of antecedent conditions, individual awareness, certain affective states, overt manifestations (conflictual behaviour), and residues of feeling, precedent, or structure. Further, Pondy (1967) stressed that conflict was a dynamic process underlying a wide variety of organisational behaviours. More narrowly, Schwenk (1990) defined conflict as conflictual behaviour in the context of a particular decision. Whilst conflict is broadly seen as a behavioural state of disagreement, research has largely shown conflict to be multidimensional (Amason, 1996; Dawes & Massey, 2005; De Dreu & Weingart, 2003; Jehn, 1995). Consequently, conflict is generally divided into two types, task and relationship. Jehn & Mannix (2001: 238) define task conflict as "an awareness of differences in viewpoints an opinions pertaining to a group task". Langfred (2007) defines task conflict as, "disagreement among group members about decisions, viewpoints, ideas, and opinions" (p. 885). Alternatively, relationship conflict is defined as "an awareness of interpersonal incompatibilities, including affective components such as feeling tension and friction" (Jehn & Mannix, 2001: 238). Similarly, Langfred (2007) defines relationship conflict as, "the perception of interpersonal incompatibility" (p. 885). Task conflict is similar to Amason's (1996) cognitive conflict, which he defines as "task oriented and focused on judgemental differences about how best to achieve common differences" (p. 127). Pelled (1996) referred to task related conflict as substantive conflict and relationship conflict as affective conflict. In a similar vein, relationship conflict is analogous to what Amason & Schweiger (1994) term affective conflict, defined as "emotional and focused on incompatibilities or disputes" (Amason, 1996: 129). Li & Hambrick (2005) refer to relationship conflict as emotional conflict which they describe as involving "interpersonal incompatibilities, including annoyance, mistrust, and animosity", (p. 798). A third type of conflict was proposed by Jehn (1997), namely, process conflict. Jehn & Mannix (2001) defined process conflict as, "an awareness of controversies about aspects of how task accomplishment will proceed" (p. 239). Whilst Jehn has identified process conflict as a separate construct in much of her more recent work there is little evidence that it has been more widely used. Indeed, it is debatable as to whether process conflict can be separated from both task and relationship conflict. This is because process conflict is likely to consist of both task and relationship conflict (Langfred, 2007).

An alternative typology of conflict sees conflict as either functional or dysfunctional (Amason, 1996; Dawes & Massey, 2005; Pondy, 1967). As Pondy (1967) observed treating conflict as functional or dysfunctional involves a consideration of the outcome of a conflict episode. Functional conflict can be defined as a state of conflict that facilitates the organisation's performance, whilst dysfunctional conflict can be defined as a state of conflict that inhibits the organisation's performance (Amason, 1996; Pondy, 1967).

Theoretical Models and Empirical Studies of Conflict

In an early theoretical model of organisational conflict, Pondy (1967) identified three types of conflict within what he termed subunits of formal organisations. First, bargaining conflict, which is viewed as horizontal conflict within an organisation, for example, conflict between members of a work group. Second, bureaucratic conflict, which is treated as vertical conflict within an organisation, for instance, conflict between superior-subordinate relationships. Finally, systems conflict, which is portrayed as lateral conflict within an organisation, for example, conflict among parties to a functional relationship, such as between a marketing manager and a finance manager. In each of the three cases, Pondy (1967) treats conflict as a series of episodes, consisting of five stages: (1) latent conflict, (2) felt conflict, (3) perceived conflict (4) manifest conflict, and (5) conflict aftermath. Using the Barnard-Simon (1960) model of inducements-contributions balance theory, Pondy (1967) analyses the three cases and concludes that conflict is best understood as a dynamic process, that is not necessarily good or bad. He argues that conflict needs to be evaluated on the basis of the individual and organisational functions and dysfunctions that emerge through conflict (Pondy, 1967).

In a study of 105 work groups and management teams, Jehn (1995) examined the effects of both task and relationship conflict on individual- and group-level variables. Using multiple methods to examine the effects, Jehn (1995) found variable results for the impact of conflict. Measuring conflict using an 8-item Likert-type scale, task conflict was found to be beneficial to team performance in groups performing non-routine tasks (Jehn, 1995). However, the remainder of her findings showed that conflict was largely detrimental. Firstly, in groups performing routine tasks, task conflict had deleterious effects on group functioning. Secondly, both task and relationship conflicts were negatively associated with individuals' satisfaction, liking of other group members, and intention to remain in the group. Thirdly, norms encouraging open discussion of conflict failed to help group members deal with conflict constructively (Jehn, 1995).

Similarly to Jehn (1995), in a study on conflict using data from top management teams in two industries, food processing and furniture manufacturing, Amason (1996) found the effects to be different dependent on the type of conflict experienced. Cognitive conflict, measured using a three-item Likert-type scale, was found to have beneficial effects on decision quality, understanding the rationale for the decision, and affective acceptance of the decision (Amason, 1996). On the other hand, affective conflict, measured using a four-item Likert-type scale was found to have negative effects on decision quality, and the affective acceptance of the decision (Amason, 1996). These results allowed Amason (1996) to suggest that cognitive conflict in top management teams should be encouraged, whilst affective conflict needs to be restrained. Supporting this view that conflict in top management teams can improve performance is the results from Eisenhardt and Bourgeois (1988) who found that unchallenged ideas in executive teams were associated with decreased performance.

In a qualitative study, Jehn (1997) adds to the strength of those arguing that conflict can be good or bad. Dividing conflict into three types, relationship, task, and process, Jehn (1997) finds that relationship and process conflict are negatively related to group performance and satisfaction, whereas under certain circumstances task conflict is positively related to performance. Specifically, task conflict was found to be beneficial when groups had acceptability norms and where there was resolution potential (Jehn, 1997). These findings led Jehn (1997) to argue that groups with norms that accept task, but not relationship conflict are most effective.

In a longitudinal study utilising 51 three-person groups at three U.S. business schools, Jehn & Mannix (2001) investigated the relationship between different types of conflict and group performance. Using confirmatory factor analysis and hierarchical regression analysis, Jehn & Mannix (2001) suggested that the middle period of the group interaction was the key to group performance. They found that high performing groups had moderate, but rising levels of task conflict during the mid-point of group interaction and low levels of both relationship and process conflict, although the latter rose slightly over time Jehn & Mannix, 2001). The findings for low performing groups were the exact opposite with rising levels of relationship conflict and falls in task conflict over the middle period of the group interaction (Jehn & Mannix, 2001). Interestingly, Jehn & Mannix (2001) found that the members of the high performing teams had similar pre-established value systems, high levels of trust and respects, and open discussion norms around conflict during the middle stages of their group interaction. These results suggest conflict is a dynamic process and that the timing of conflict types is crucial to the level of group performance.

In another longitudinal study, Peterson & Behfar (2003) investigate the relationship between performance feedback, trust and conflict in groups. Using a sample of 67 teams from a first term MBA class in a U.S. business school, Peterson & Behfar (2003) drew on two surveys at different points of time, and found that initial performance feedback to groups had a significant impact on future team performance. Specifically, they find that negative initial performance feedback results in later increases in task and relationship conflict, although high early levels of group trust moderate this effect (Peterson & Behfar, 2003). Further findings include the following: (i) relationship conflict in time period two is significantly predicted by both relationship conflict and grades at time period one, (ii) continued relationship conflict in time period two has a negative effect on grade at the end of period two, (iii) relationship conflict in period two does not predict task conflict in period two, (iv) task conflict and grade in period one predict later task conflict, and (v) task conflict in period two is marginally and negatively related to the change in grade from period one to two (Peterson & Behfar, 2003). This latter finding leads Peterson & Behfar (2003) to suggest that task conflict may be a consequence of variables not considered in their model.

Using a longitudinal, experimental laboratory setting of upper and middle-level managers, Schweiger et al., (1989) discovered that higher quality decisions were made when conflicting views were presented, and thus reinforcing the notion that conflict can be beneficial. This confirmed the findings of Bourgeois' (1985) study of top management teams, where it was shown that a lack of disagreement had negative effects on strategic decisions. Eisenhardt et al., (1997) presented similar results in their study of conflict in 12 top management teams. They found that high conflict was associated with high performance, whereas low conflict teams had low performance. Drawing on the results of their empirical study, Eisenhardt et al., (1997) provided suggestions as to how managers can create high conflict teams.

Providing partly contrary evidence to the beneficial results from conflict, Schwenk (1990) found contradictory outcomes for profit and not-for-profit organisations. In an exploratory study, not-for-profit managers associated high conflict with high quality decision-making, whilst executives in profit oriented organisations associated high conflict with low quality decisions.

Through the testing of an integrative model of the relationships among diversity, conflict and performance with a sample of 45 teams, Pelled et al., (1999) found that task conflict is positively associated with cognitive task performance. Somewhat surprisingly, and in contrast to nearly all the other empirical evidence, they failed to find a negative relationship between emotional conflict and performance (Pelled et al., 1999).

In an empirical examination of the antecedents of conflict in marketing's cross-functional relationship with sales, Dawes & Massey (2005) find that communication frequency is strongly negatively related to, and communication bi-directionality strongly positively related to, interpersonal conflict. This is a particularly significant result, as it outlines the importance of two-way communication in helping to lower group conflict. They also find that conflict is positively related to psychological distance and negatively related to the level of the sales manager's formal education (Dawes & Massey, 2005).

In a further study investigating the antecedents and consequence of functional and dysfunctional conflict between marketing and sales managers, Massey & Dawes (2007a) finds that functional conflict is strongly positively related to communication quality and bidirectional communication. They also find strong support for their hypothesis that increases in functional conflict improves perceived relationship effectiveness (Massey & Dawes, 2007a). Whilst their model had high explanatory power for factors explaining functional conflict, there was less explanatory power for factors affecting dysfunctional conflict. However, they did find that bidirectional communication and communication quality were negatively associated with conflict. Unsurprisingly, they found that higher levels of dysfunctional conflict led to lower levels of perceived relationship effectiveness. These results further demonstrate that certain types of conflict have beneficial performance effects, whilst other types of conflict have negative performance effects.

Resulting from a thorough review of conflict literature across nine academic disciplines, Jehn & Bendersky (2003) develop a theoretical model of conflict that they term the conflict-outcome-moderated (COM) model. The model identifies four broad categories of the moderators of the conflict-outcome relationship: (1) amplifiers that strengthen both the positive and negative effects of conflict, (2) suppressors that weaken both the positive and negative effects of conflict, (3) ameliorators that decrease negative effects, and increase positive effects, of conflict, and (4) exacerbators that increase negative effects, and decrease positive effects, of conflict (Jehn & Bendersky, 2003). The amplifier moderators identified are task interdependence, group diversity, acceptability norms, and collaborative conflict management processes. The suppressor moderators are suggested to be routine tasks and rights-based conflict resolution. The ameliorator moderators are given as positive emotions, and interest-based third parties. Finally, the exacerbator moderator is identified as being negative emotions (Jehn & Bendersky, 2003)

In a meta-analysis of research on the associations between relationship, task conflict, team performance, and team member satisfaction, De Dreu & Weingart (2003) find that both relationship and task conflict are strongly, negatively related to team performance and team member satisfaction. Whilst the findings for relationship conflict was consistent with previous theory and empirical results, the findings for task conflict were in contrast to most of the previous theory and empirical results. Furthermore, contradicting previous results from Jehn (1995), De Dreu &

Weingart (2003) found that conflict had stronger negative relations with team performance in more complex rather than in less complex tasks.

The results from De Dreu & Weingart (2003) indicating that conflict has a negative impact have similarities with much of the early research on conflict. Whilst Pondy (1967) identified that conflict could be good or bad, he followed the view of March and Simon (1958) and suggested that conflict was the negative outcome of a breakdown in the co-operative organisational system, which affects the equilibrium of a high-performing organisation. Following a similar line that conflict is negative, Deutsch (1969) contends that conflicts decrease goodwill and mutual understanding. A considerable body of early empirical research is supportive of the negative outcomes of conflict. Evan (1965) studied conflict in research and development teams, and showed that interpersonal conflicts were correlated with low group-level and individual performance. However, Evan's conclusions have been questioned because he failed to undertake the necessary statistical tests to check for direction of causality (Jehn and Benderky, 2003). It could be his data shows that low group-level and individual performance create conditions for the occurrence of conflict. In a mixed method study of sales teams, Gladstein (1984) found that higher conflict within teams was associated with lower levels of group performance and individual satisfaction. Wall and Nolan (1986) in a study of conflict using a sample of 375 undergraduate students found that satisfaction with a task decreases as conflict related to equity issues, task-related goals, and personality differences within a group increases. More recently, Schwenk & Cosier (1993) in an investigation of the effect of consensus versus conflict on group performance found teams with low levels of conflict and high levels of consensus were better performers than teams with high levels of conflict and low levels of consensus. Furthermore, teams with low levels of conflict expressed greater willingness to work together in the future (Schwenk & Cosier, 1993).

Reinforcement for the negative view of conflict is also provided by a more recent longitudinal study by Langfred (2007), on the effects of conflict on trust, autonomy, and task interdependence in self-managing teams. Using longitudinal data from 35 self-managing teams in a class of MBA students at a U.S. university and undertaking a lagged multiple regression, Langfred (2007) finds that higher levels of conflict are associated with lower levels of group trust and subsequently correlated with lower task interdependence and individual autonomy resulting in decreased performance. Whilst these findings were particularly significant for relationship conflict, they are also significant for task conflict (Langfred, 2007).

Li & Hambrick provided further recent support for the negative portrayal of conflict. Using 71 international joint venture management groups in China, and through factor analysis and hierarchical regression analysis, to test their model of the effects of demographic faultlines, conflict and disintegration in work teams, they found that large demographic faultlines cause increases in both task and emotional (or relationship) conflict. These, in turn, lead to worsening performance (Li & Hambrick, 2005).

Summary of Conflict

To summarise, the majority of the literature on conflict draws a distinction between beneficial aspects of conflict, such as task conflict, cognitive conflict, and functional conflict, and negative features of conflict, such as affective conflict, relationship conflict, and dysfunctional conflict (Amason, 1996, Dawes & Massey, 2005; De Dreu & Weingart, 2003; Jehn, 1995; Jehn, 1997). Although there is a distinction between positive attributes of conflict (e.g. task conflict, cognitive conflict) and negative attributes of conflict (e.g. affective conflict, relationship conflict), most studies show high levels of correlation between the variables. This may explain the equivocal empirical results. Many researchers find that conflict has both functional and dysfunctional effects upon organisational performance (Amason, 1996; Dawes & Massey, 2005, Jehn, 1995, Pelled et al., 1999), however a small number of studies suggest that conflict is solely negative (De Dreu & Weingart, 2003; Langfred, 2007).

3.5. Trust

Introduction

The recognition that trust is critical to the effective functioning of teams has led to a proliferation of theoretical and empirical research in organisational trust in management and organisation studies over the past twenty or so years (Bijlsma & Van de Bunt, 2003; De Jong & Elfring, 2010; Langfred, 2004; Mollering et al., 2004; Schoorman et al., 2007). Prior to this, much of the research on trust came from within the separate disciplines of economics, political science, psychology and sociology (Bigley & Pearce, 1998; Lewicki et al., 1998; Sheppard & Sherman, 1998). A number of authors have observed that the result of trust having been studied in many social science disciplines is a huge diversity in background, methods, and goals of trust scholars, and had left trust without a solid, unifying framework (Beccerra & Gupta, 1999; Bhattacharya et al., 1998; Mayer et al., 1995). Furthermore, the diversity has been supplemented in the variability in the unit of analysis in which trust has been examined (Beccerra & Gupta, 1999; Rousseau et al., 1998). In an important paper for the study of trust in organisations, Mayer et al., (1995) developed a model of trust that attempted to integrate the differing disciplinary perspectives. They contended that whilst there had hitherto been a great interest in trust, its study in organisations had been highly problematic for several reasons: problems with the definition of trust; lack of clarity in the relationship between risk and trust; confusion between trust and its antecedents and outcomes; confusion in levels of analysis; and a failure to consider both the trusting party and the party to be trusted. A similar approach was advanced by Rousseau et al., (1998) who identified that they wished to move research on trust forward through the adoption of a multidisciplinary perspective which attempted to overcome traditional disciplinary differences. Prior to, and subsequent to, the contributions of Mayer et al., (1995) and Rousseau et al., (1998), there has been a considerable body of theoretical and empirical research examining the impact of trust in organisational teams (De Jong & Elfring, 2010; Schoorman et al., 2007). The following sections will review this trust literature.

Definition of Trust

There are various definitions of trust in the literature. A number of these definitions are shown in the table below.

Table 3-2. Definitions of Trust

Author(s)	**Definition**
Mayer et al., (1995: 712)	*"Trust is the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party."*
Sitkin & Roth (1993: 373)	*"Trust is the belief in a person's competence to perform a specific task under specific circumstances."*
Whitener et al., (1998: 513)	*"Trust can be viewed as a positive attitude towards others and thus involves a willingness to be vulnerable and risk that the other party may not fulfill that expectation."*
Bhattacharya et., (1998: 462)	*"Trust is an expectancy of positive outcomes that one can receive based on the expected action of another party in an interaction characterised by uncertainty."*
Rousseau et al., (1998: 395)	*"Trust is a psychological state comprising the willingness to be vulnerable under conditions of risk and uncertainty."*
Costa (2003: 608)	*"Trust is a psychological state based on expectations and on perceived motives and intentions of others, but also a manifestation of behaviour towards others."*

Although there is no universal definition of trust, there is considerable agreement that trust is a psychological state with a number of key characteristics, including positive expectations and suspension of uncertainty during a period where individuals recognize their vulnerability (De Jong & Elfring, 2010; Rousseau et al., 1998). In addition, there is wide recognition of trust as a multi-dimensional construct (Connell et al., 2003; Costa, 2003; Ferres et al., 2004; Gillespie & Mann, 2004). Various researchers suggest that trust has moral, cognitive, affective or emotional, and behavioural bases (Clark & Payne, 1987; Mayer et al., 1995; McAllister, 1995). Cognitive trust refers to one's beliefs about another's trustworthiness, affective trust refers to the role of emotions in the trust process, whilst according to Gillespie & Mann (2004), behavioural trust has two forms: relying on another and disclosure of sensitive information to another.

These definitions are ones of interpersonal trust, trust as an individual-level concept. Trust, however, can be viewed as a team-level concept. In particular, intra-team trust is viewed as a team-level concept, which refers to generalised expectations for all team members (De Jong & Elfring, 2010; Langfred, 2004; Simons & Peterson, 2000). As helpfully observed by De Jong & Elfring (2010), whilst perceptions of trust are held at the individual level, the meaning of trust as a team-level construct derives from the shared quality of the individual-level perceptions. Whilst it is necessary to distinguish between interpersonal trust (trust as an individual-level construct) and intra-team trust (trust as a team-level construct), there are a few authors who suggest that there are considerable similarities between the individual-level and the team-level concepts (McKnight et al., 1998; Schoorman et al., 2007). Also and perhaps, more importantly the way they affect outcomes are largely similar at different levels of analysis (McKnight et al., 1998; Schoorman et al., 2007).

Theoretical Models and Empirical Studies of Trust

The realisation of the importance of trust at an individual-level and team-level within organisations has generated a considerable amount of theoretical and empirical research. This section will review this literature.

The literature of trust in organisations can be divided into three broad categories. The first is research examining the antecedents of trust (Bijlsma & Van de Bunt, 2003; Costa, 2003; Kerkhof et al, 2003; Korsgaard et al., 1995; McKnight et al., 1998; Whitener et al., 1998), the second is research examining the outcomes of trust (De Jong & Elfring, 2010; Mach et al., 2010; Stewart and Barrick, 2000), and the third combines the first two by examining both the antecedents and the outcomes of trust (Costa et al., 2001; Gillespie & Mann, 2004; Mayer et al, 1995; McAllister, 1995). Much of this research in trust in organisations is predominately an interest in trust in teams, whether it be in ongoing teams, or short-term teams (De Jong & Elfring, 2010).

Antecedents of Trust

In a highly regarded attempt to develop an integrated model of trust, Mayer et al., (1995) identified perceived trustworthiness, ability, benevolence, integrity, and the propensity to trust as the key antecedents of trust. A body of subsequent research has followed similar lines in their approach to antecedents of trust. For example, Costa et al., (2001) identified both perceived trustworthiness and the propensity to trust as key antecedents, alongside cooperative and monitoring behaviours of trust. An alternative, but not entirely dissimilar approach was provided by McAllister (1995), who identified the level of citizenship behaviour and the frequency of interaction as antecedents of affect-based trust, whilst previous history of reliability, cultural and ethnic similarity and professional credentials were viewed as antecedents of cognitive trust. Whilst the approach of McAllister (1995) has distinct differences to that of Mayer et al., (1995) they still have trusting behaviours as an important element of the antecedents of trust. The separation of trust into affect-based trust and cognitive-based trust is also used by Gillespie & Mann (2004) who provided an additional concept, behavioural trust. They found that consultation between team members, communication, and shared values were important antecedents of trust towards team leaders. The importance of consultation in the development of trust in teams was also found by a number of other researchers (Bijlsma & Van de Bunt, 2003; Kerkhof et al., 2003; Korsgaard et al., 1995). In addition to the importance of consultation, Bijlsma & Van de Bunt (2003) found that a "combination of monitoring, guidance, and support is a necessary condition for trust in managers" (p. 658). In examining the formation of trust, McKnight et al., (1998) modelled trusting intention as a function of disposition to trust, institution-based trust, and trusting beliefs and of the cognitive processes, categorisation processes and illusions of control process. Rather broadly, Jones and George (1998) suggest trust as an experience is influenced by people's values, attitudes, moods and emotions. Usefully, Jones and George (1998) categorise trust into three distinct states: distrust, conditional trust, and unconditional trust, and contend that people's values, attitudes, moods and emotions are key antecedents of the trusting state in teams.

In summary, there are various antecedents of trust identified in the literature. The most often identified are perceived trustworthiness, propensity to trust, ability, benevolence and integrity. In addition, similar to conflict a number of authors divide trust and its antecedents into cognitive and affective trust (e.g., Gillespie & Mann, 2004; McAllister, 1995; McKnight et al., 1998).

Outcomes of Trust

There has been much research interest in the outcomes of trust in organisations since the conceptual model of Mayer et al., (1995). A particularly important strand of this research is the role of trust in organisational teams and how trust affects performance (Costa, 2003; De Jong & Elfring, 2010; Dirks, 1999; Dirks and Ferrin, 2001; Langfred, 2004). Trust is regarded as a key part of teamwork because team tasks can require a high level of interdependence between team members (Mach et al., 2010; Mullen & Copper, 1994). Trust is generally seen as being highly beneficial to the functioning of an organisation (Costa et al., 2003; Gillespie & Mann, 2004; Lewicki et al, 1998; Mayer et al., 1995; Rousseau et al., 1998). Research has suggested that trust enhances employee performance (Dirks and Skarlicki, 2009), employee attitudes (Brower et al., 2009; Dirks, 1999), employee satisfaction (Costa, 2003; LePine et al., 2008), continuous improvement efforts (Lee, 2004), increased coordination and cooperation (McAllister, 1995) and motivation (Heavey et al, 2011). However, as pointed out by De Jong & Elfring (2010), the outcomes of the studies focusing on short-term teams differ from those looking at ongoing teams. Specifically, studies on the effect of trust on performance outcomes in short-term teams suggest trust has a negligible impact on performance (Dirks, 1999; Langfred, 2004 & 2007). Alternatively, studies looking at the impact of trust on performance in on-going teams have consistently shown evidence of a positive effect on performance outcomes, such as task performance, team member satisfaction, or team performance (Costa et al., 2001; Costa, 2003; De Jong & Elfring, 2010; Lee, 2004; Mach et al., 2010).

Summary of Trust

Theoretical and empirical evidence points to the importance of trust within organisations and specifically to teams within organisations. Various researchers have identified a number of antecedents of trust (Bijlsma & Van de Bunt, 2003; Costa, 2003; Kerkhof et al, 2003; Korsgaard et al., 1995; McKnight et al., 1998; Whitener et al., 1998). In addition, there has been considerable research interest in the outcomes of trust (De Jong & Elfring, 2010; Mach et al., 2010; Stewart & Barrick, 2000). Whilst some evidence suggests the benefits of trust in short-term teams is negligible (Dirks, 1999; Langfred, 2004 & 2007), a considerable body of evidence points to the beneficial outcomes of trust in on-going teams (Costa et al., 2001; Costa, 2003; De Jong & Elfring, 2010; Gillespie & Mann, 2004; Lee, 2004; Mach et al., 2010). Given that boards of directors are regarded as a cognitive decision-making team (Forbes & Milliken, 1999), the importance of trust as a process to explaining board performance is one that requires exploration. The next section will review the board process literature, including the limited treatment of trust on boards.

3.6. Board Processes

This chapter has thus far reviewed the literature examining team processes contributing to team effectiveness. Linked to this literature is an increasing body of corporate governance research examining board processes and behaviours that impact upon board performance. In their seminal paper, Forbes & Milliken (1999) contended that a board of directors could be viewed as large, elite and episodic decision-making groups, whose output is entirely cognitive. They developed a conceptual model to explain board effectiveness, defined by the board's ability to perform its control and service tasks effectively and the cohesiveness (the ability of the board to continue working together) of the board. Board task performance was viewed as impacting directly on form performance, whilst board cohesiveness affected firm performance indirectly by influencing present and future levels of board task performance (Forbes & Milliken, 1999). Drawing on the small teams literature, the primary factors influencing board effectiveness were divided into board characteristics (demography, and the presence of knowledge and skills on the board) and board processes (cognitive conflict, effort norms, and the use of knowledge and skills) (Forbes & Milliken, 1999). Following the seminal contribution of Forbes & Milliken (1999) and the contention of various other researchers that to understand boards performance, there was a need to examine how boards actually behave (Pettigrew, 1992; McNulty & Pettigrew, 1999), there has been the development of a stream of research investigating the relationship between board processes and performance (Cornforth, 2001; Finkelstein & Mooney, 2003; Gabrielsson & Winlund, 2000; Huse, 2005 & 2007; Minichilli et al., 2009; Pugliesi et al., 2009; Ruigrok et al., 2006; Van Ees et al., 2008; Wan & Ong, 2005; Zona & Zattoni, 2007). This section will provide an overview of this relatively recent body of literature.

As discussed in the previous chapter, Literature Review: Corporate Governance Theories on Boards of Directors, traditional approaches to corporate governance concentrated on examining the relationship between board structure and firm performance. This has been criticised heavily for ignoring the processes that link structure and performance (e.g., Pettigrew, 1992). Consequently, the research in corporate governance has seen a change in emphasis in recent years. This change is principally in three areas. First, there has been a move towards the use of multi-theoretic perspectives. Second, there has been a conceptual shift towards studying the intervening processes that link board inputs to board outputs. Third, there has been a methodological development away from the use of archival studies to survey based studies and a variety of qualitative type studies, including the use of participate and non-participative observation to gain greater insights into board activities and behaviours.

At the core of this emergent research stream has been the investigation of the effect of board processes on board outcomes, specifically board effectiveness. Within this body of literature, board effectiveness has been defined as the board's ability to successfully carry out their roles (or tasks) (Aguilera, 2005; Huse, 2005; Johnson et al., 1996; Minichilli et al., 2010; Stiles & Taylor, 2001; Zahra & Pearce, 1989; Zona & Zattoni, 2007). Drawing on existing theories of corporate governance, researchers in this tradition have suggested that boards carry out various roles (Carpenter & Westphal, 2001; Fama & Jensen, 1983; Hillman & Dalziel, 2003; Pfeffer, 1972; Ruigrok et al., 2006; Stiles, 2001). In an early identification of board roles, Zahra & Pearce (1989) provided an important contribution by proposing boards have three primary roles: control, strategy, and service. In their seminal work, Forbes & Milliken defined board task performance as, "the board's ability to perform its control and service tasks effectively" (1999: 492). These two examples illustrate a problem endemic in board role research and that is an ambiguity in terminology and scope of definition (Nicholson & Kiel, 2004; Van den Heuvel et al., 2006). Various authors (e.g., Forbes & Milliken, 1999; Zona & Zattoni, 2007) use board tasks in a similar way to others use of board roles (e.g., Van Ees et al., 2008) and highlights the lack of conceptual clarity referred to by Van den Heuvel et al., (2006). In addition, a wide variety of roles (or tasks) have been conceptualised in the literature, including control (or monitoring), service, resource dependency, strategy, advice, and networking (Forbes & Milliken, 1999; Huse, 2005; Minichilli, et al., 2009, 2010; Ruigrok et al., 2006; Van den Heuvel et al., 2006; Van Ees et al., 2008; Wan & Ong, 2005; Zahra & Pearce, 1989; Zona & Zattoni, 2007). Whilst definitions of control and monitoring are largely consistent in the literature, the treatment of the other roles is inconsistent. As partly noted by Van den Heuvel et al., (2006), service roles are sometimes located in the literature within strategy, resource dependency or networking roles (Hillman et al., 2000; Hillman et al., 2003; Johnson et al., 1996; Zona & Zattoni, 2007).

Issues of definitional ambiguity and lack of conceptual clarity over the roles (or tasks) performed by boards notwithstanding, the board process tradition has provided a useful contribution to the understanding of factors contributing to board effectiveness. Most notable is the consistent finding that board processes have stronger explanatory power of board role (or task) performance than board structures (Minichilli et al., 2009, 2010; Van den Heuvel et al., 2006; Van Ees et al., 2008; Wan & Ong, 2005; Zona & Zattoni, 2007). The processes that have been studied are a subset of the small groups (or teams) processes identified in Section 3.2. in this chapter. The main processes that have been the focus of empirical study have been those identified by Forbes & Milliken (1999): cognitive conflict, effort norms, and the use of knowledge and skills (Minichilli et al., 2010; Van Ees et al., 2008; Wan & Ong, 2005; Zona & Zattoni, 2007). Effort norms are a group-level construct that can be expected to enhance the effort of individual group members and thus contribute to improving the performance of groups (Wageman, 1995). The use of knowledge and skills refers to group's ability to utilise the knowledge and skills available to it and to apply them to different tasks (Hackman and Morris, 1975). According to Cohen & Bailey (1997), the use of knowledge and skills is related to the behavioural dimension of social integration, thus affecting a group's ability to co-operate. A number of other board processes have been subject to less attention (e.g., affective conflict, trust) (Van Ees et al., 2008) and some processes (e.g. communication quality) have to my knowledge not been the focus of any study to this point.

Whilst this body of research has led to a better understanding of the factors influencing board effectiveness, very few studies have actually measured board effectiveness itself. The tend to measure the extent to which boards are involved in the roles, rather than the effectiveness of the role performance. A very recent study by Payne et al., (2009) used a self-rating scale for directors to judge the board's effectiveness and found that board attributes (knowledge, information, power, opportunity/time) contributed to board effectiveness, which was positively related to corporate performance.

3.7. Summary of the Chapter and Identification of Research Gaps

This chapter has reviewed the literature in various small groups (or teams) processes that has been the subject to recent board process research examining the actual behaviour of boards of directors and how this contributes to board effectiveness. The review of the corporate governance literature and the board process literature has identified a number of gaps in the research. First, despite some impressive improvements in the knowledge about boards and what they actually do in recent years, many researchers still contend there is much to learn (Hillman et al., 2008; Minichilli et al., 2009; Van Ees et al., 2008). Given that only a sub-set of board processes have been subject to empirical study, there are a number of processes which are not yet understood. This suggests a study that investigates a more comprehensive set of board processes is required. Second, much of the focus of empirical work examining board processes and board role performance has been limited to Continental Europe and South East Asia with little attention paid to UK boards. This lack of large empirical studies in the UK examining board processes and their potential contribution to board role performance and board effectiveness is a gap in the research requiring attention. Third, the lack of research specifically measuring board effectiveness is a noteworthy absence in the literature. Fourth, the many calls for the development of new theories in corporate governance (e.g., Aguilera, 2005; Huse, 2005; Pye & Pettigrew, 2005; Roberts et al., 2005) and especially the need for a multi-theoretic approach is also a gap identified through the review of the literature.

These gaps in the literature have helped identify the need for the development of a new model to investigate the factors influencing board effectiveness with a specific focus in the UK. The next chapter will develop this model and a number of hypotheses that will be tested through a survey of the boards of UK listed companies.

CHAPTER 4:

MODEL AND HYPOTHESES DEVELOPMENT

4.1 Introduction

As identified by Petrovic (2008), one of the most important questions in corporate governance is what makes an effective board of directors. In a recent paper, Zona & Zattoni (2007) observed that despite a vast body of corporate governance literature there is still little evidence on what determines board effectiveness. Recently, board researchers have argued that far greater attention needs to be given to the behaviour of the board of directors to establish a deeper understanding of the workings of boards (Huse, 1998, 2005 & 2007; Pye & Pettigrew, 2005; Roberts et al., 2005). In particular, there have been many calls to examine the processes that lie behind the operation of the board of directors. In one of the first attempts to examine board processes, Forbes & Milliken (1999) developed a conceptual model to illuminate the complexity of board dynamics. However, thus far there has been no empirical testing of their model, although a few studies (e.g., van Ees et al., 2008 and Zona & Zattoni, 2007) have attempted to test modifications of the original Forbes & Milliken (1999) model. This thesis follows the approach of Forbes & Milliken (1999) by viewing the board of directors as a small group, and the theoretical model follows the classical input-processes (or mediators)-output approach taken in conventional small groups research (Cohen & Bailey, 1997; Gist et al., 1987; Ilgen et al., 2005; Marks et al., 2001).

In this model the output, board effectiveness, is the dependent variable. The inputs or independent variables are board governance orientation and board governance processes. The former is a new concept that draws upon four existing theories in corporate governance: agency, resource dependency, stakeholder, and stewardship. The latter is a concept partly drawn from Forbes & Milliken (1999), but further developed from the board literature (Huse, 2005; Sherwin, 2003). Drawing on the small groups literature and the literature of top management teams, six important board governance processes are identified: conflict (cognitive and affective), cohesiveness, communication quality, effort norms, trust, and the use of knowledge and skills. The mediating variables in the model are derived from board role theories and are identified as the control, service, and strategy roles of the board (Zahra & Pearce, 1989).

The following sections develop the conceptual model (see Figure 4-1) which follows the approach of recent research on boards by examining the impact of board processes on board role performance. In addition, the model contributes to existing literature in a number of ways. First, the model introduces a new concept, board governance orientation. Second the model encapsulates a more comprehensive set of board processes than any previous research. Third, the model proposes board effectiveness as the dependent variable. This is a departure from previous studies which have either used firm performance or the board's involvement in task performance as the dependent variables. In the sections that follow, each component of the theoretical model is discussed in detail and hypotheses developed.

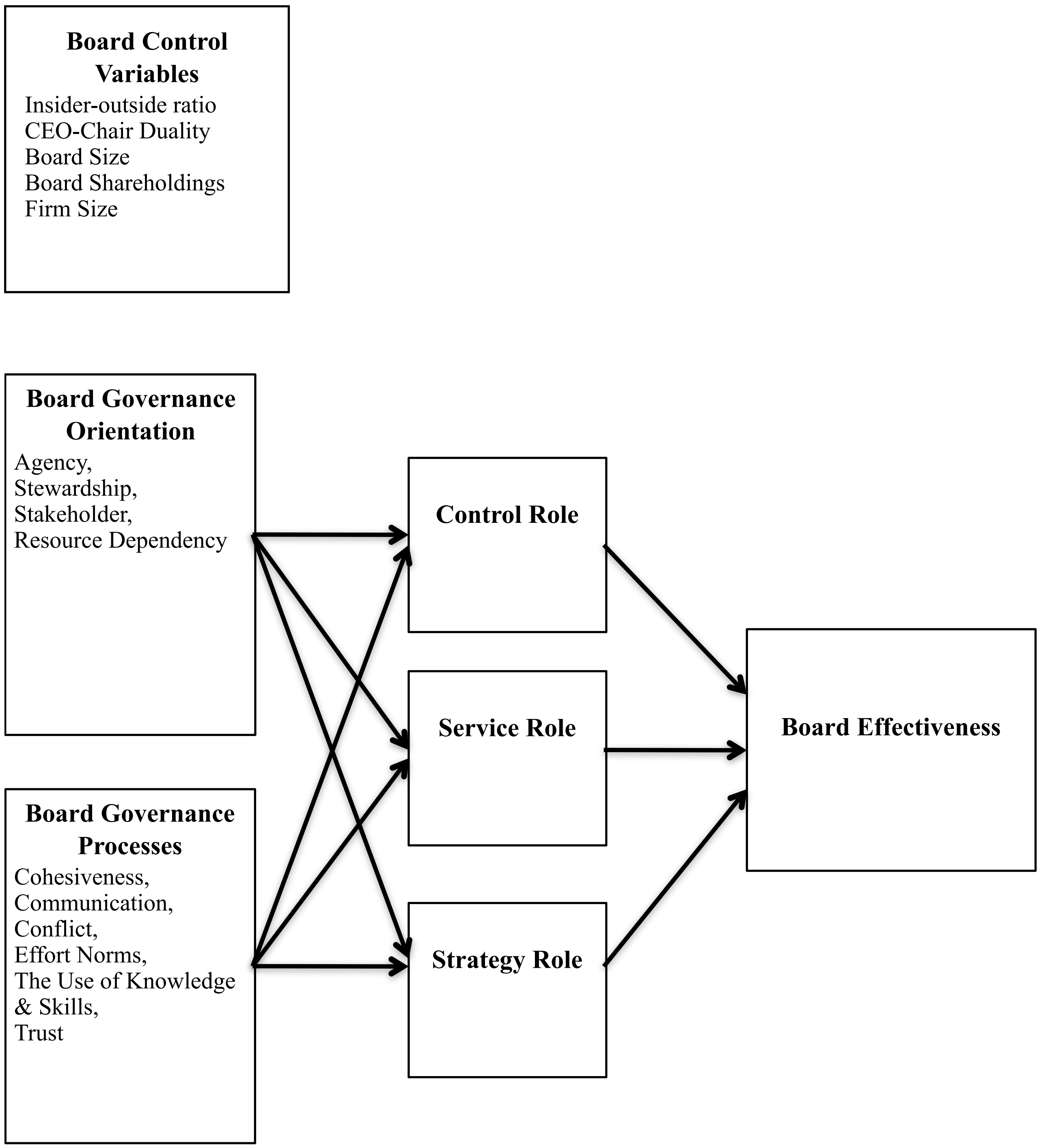

Figure 4-1. Hypothesised Model of Board Governance Orientation and Board Governance Processes on Board Roles and Board Effectiveness

4.2. Board Effectiveness

Traditional perspectives on corporate governance, largely drawn from an agency theory perspective suggest the principal role of a board of directors is to monitor and control the management to ensure they are acting in the interest of shareholders (Fama & Jensen, 1983; Jensen & Meckling, 1976). Thus, taking an agency theoretic view, an effective board would be one that ensured returns to shareholders are maximised. Much of the early corporate governance literature focussed its attention on board structure and how an independent board would improve firm performance. In many of these early corporate governance studies, firm performance was used a proxy for board effectiveness (Hermalin & Weisbach, 2003; Daily et al., 2003). However, two important issues emerged from this stream of literature. First, what exactly does an independent board mean? Second, empirical evidence was equivocal about the exact nature of the relationship between board structural characteristics and firm performance. Whilst agency theory recommended a board of directors should have a separate CEO-chair and a majority of non-executive directors, there is inconclusive evidence that this is beneficial for firm performance (Dalton et al., 2003; Hermalin & Weisbach, 2003; Johnson et al., 1996).

The dissatisfaction with the results emanating from agency theory based studies of corporate governance has led to many calls for a change in direction in corporate governance and, more narrowly, board research. Recently, board researchers have identified the importance of both, a multi-theoretic approach and a closer examination of board processes in order to better understand what makes a board of directors more effective (Finkelstein & Mooney, 2003; Forbes & Milliken, 1999; Huse, 2005; Kroll et al., 2008; Pye & Pettigrew, 2005; Roberts et al., 2005). Much of this more recent literature refers to board effectiveness as the board's ability to perform its roles or tasks in order to add value to the organisation or to improve company performance in order to satisfy the interests of shareholders/stakeholders (Aguilera, 2005; Denis & McConnell, 2003; Huse, 2005;

Langevoort, 2001; Forbes & Milliken, 1999; Pye & Pettigrew, 2005). However, as noted by Nicholson & Kiel (2004) and highlighted by Petrovic (2008) the literature has little to say on how to measure board effectiveness. In general, research has continued to use measures of organisational performance as a proxy measure of board effectiveness (Nicholson & Kiel, 2004; Petrovic, 2008).

Following Pearce and Zahra's (1991) lead, a small body of research, examining boards in the non-profit sector, has attempted to measure board performance (or effectiveness) based on subjective measures, of how satisfied board members were with board performance and/or their satisfaction levels with how the board performed in a variety of tasks/functions (Bradshaw et al., 1992; Green & Griesinger, 1996; Cornforth, 2001). This research follows this approach by measuring board effectiveness based on how satisfied the board is with the way they undertake their various roles.

Whilst there remains a problem in measuring board effectiveness, there is increasing agreement among a body of board researchers that a clear understanding of board roles is key to creating board effectiveness (Aguilera, 2005 & 2008; Hillman et al., 2008; Huse, 2005 & 2007). Drawing on this literature, this research proposes that board effectiveness is determined by the board's ability to successfully carry out their control, service and strategy roles.

4.3. Board Roles

Scholars in the field of corporate governance have identified various roles directors play in contributing to board effectiveness or performance (Carpenter & Westphal, 2001; Fama & Jensen, 1983; Hillman & Dalziel, 2003; Pfeffer, 1972; Ruigrok et al., 2006; Stiles, 2001). Van den Heuvel et al., (2006) suggest board role research is primarily characterised by the conceptual development of board roles, based on a variety of organisation theories, including agency, resource dependency, stewardship, social network and institutional theory. In an early identification of board roles, Zahra & Pearce (1989) provided an important contribution by proposing boards have three primary roles: control, strategy, and service. The control role relates to the board evaluating company and CEO performance to ensure company growth and protect shareholders' interests. The service role involves enhancing company reputation, establishing contacts with the external environment and giving advice and counsel to executives. The strategy role relates to the board's involvement in and contribution to the development of the firm's mission, and he development of the firm's strategy (Zahra & Pearce, 1989). Forbes & Milliken defined board task performance as, "the board's ability to perform its control and service tasks effectively" (1999: 492). As identified in the previous chapter, these two examples illustrate a problem endemic in board role research which is the ambiguity in terminology (Nicholson & Kiel, 2004; Van den Heuvel et al., 2006). Various authors (e.g., Forbes & Milliken, 1999; Zona & Zattoni, 2007) use board tasks in a similar way to how others use board roles which highlights the lack of conceptual clarity referred to by Van den Heuvel et al., (2006). As Petrovic (2008) correctly states, "corporate governance research offers different interpretations of the concept of board roles" (p. 3). Helpfully, Petrovic (2008) divides board role research into two separate, yet linked, streams.

The first stream of the literature considers that board roles are control (monitoring the management) and direction (strategic direction of the company) to ensure the attainment of shareholder/stakeholder objectives (Petrovic, 2008). Interestingly, this treatment of board roles excludes the service role identified by many board researchers in addition to that of control and strategy (e.g. Aguilera, 2005; Forbes & Milliken, 1999; Van den Heuvel et al., 2006; Zona & Zattoni, 2007). Linked to the service role, Petrovic (2008) does not consider alternative board roles such as resource provision and networking that are identified in some of the board literature (Hillman & Dalziel, 2003; Nicholson & Kiel, 2004; Zona & Zattoni, 2007).

The second stream of the literature (e.g. Huse, 2005; Roberts et al., 2005) suggests that board roles are created by individual board directors (Petrovic, 2008). According to Petrovic (2008), "an extensive stream of CG research examined and tried to conceptualise roles that board directors perform" (p. 4). This stream of literature highlights the methodological issue between individual and board levels of analysis, in addition to the lack of conceptual clarity in the use of the term board roles/tasks (Forbes & Milliken, 1999; Gabrielsson & Winlund, 2000; Huse, 2005; Van den Heuvel et al., 2006; Zona & Zattoni, 2007). Van den Heuvel et al., (2006) provide a helpful solution to the latter problem. They define board roles as aggregated board tasks, whilst board tasks are the different sub-activities boards fulfil in practice. This research uses the Van den Heuvel et al., (2006) definition of board roles as aggregated board tasks and adopts the Zahra & Pearce (1989) separation of board roles into control, service, and strategy. Thus, in order to undertake their control, service and strategy roles, boards undertake a variety of tasks such as evaluating the CEO's performance, analysing budget performance, advising on a range of accounting, financial and general management issues, and assisting in making proposals on company strategy. The following sections examine each of the three roles in more detail.

Control Role

Agency theorists suggest that the board of directors is at the "apex of the decision control system", (Fama & Jensen, 1983: 311) whose primary role is to monitor or control management (agents) in the interests of the owner shareholders (principals). Thus, from an agency theory perspective the principal role that the board has to play is a control and monitoring one (Fama & Jensen, 1983; Jensen & Meckling, 1976). Forbes & Milliken (1999) suggest the control role include decisions regarding the hiring, evaluation, compensation, and replacement of senior management, as well as approval of major strategic decisions made by the firm's executive. The following table partly based on Van den Heuval et al., (2006) illustrates that the Forbes & Milliken (1999) conceptualisation is similar to many other definitions of the board's control role.

Table 4-1. Definitions of Board Control Role

	Pearce & Zahra (1992: 412-413)	Johnson et al., (1996: 410)	Hillman et al., (2000: 236)
Control Role	"The selection of senior executives, monitoring, evaluating and rewarding executive performance; and using board power to protect shareholders' interests."	"Entailing directors monitoring managers as fiduciaries of stockholders", which includes "hiring and firing the CEO, determining executive pay, and monitoring managers."	"Serve shareholders by ratifying the decisions of managers and monitoring the implementation of those decisions."
	Hillman & Dalziel (2003: 384-388) Hillman et al., (2008: 444)	Zona & Zattoni (2007: 853-854)	Huse (2007)
Control Role	"Monitoring the CEO, monitoring strategy implementation, planning CEO succession, and evaluating and rewarding the CEO/top managers."	"Control of firm performance, the monitoring of firm's activities, the assessment of CEO behaviours and so on."	Output control: external measure of performance Behavioural Control: internal measure Strategic control: decision ratification and evaluation

As shown in Table 4-1, there is general consensus in the literature that the control role of the board consists of tasks such as, the monitoring of the CEO and senior management, monitoring strategy implementation, evaluating and rewarding executive performance, and hiring and replacing the CEO (van Heuvel et al., 2006). Whilst many researchers have identified the importance of the board's control role, the majority of this research has examined the impact of board structural characteristics on the fulfilment of the board's control role (Dalton & Kesner, 1987; Kesner et al., 1986; Mace, 1971; Molz, 1988). There have only been a small number of empirical studies that have attempted to measure the extent to which board processes have influenced the fulfilment of the board's control role (Gabrielsson & Winlund, 2000; van Heuvel et al., 2006; Wan & Ong, 2005; Zona & Zattoni, 2007). This study proposes to further this research by examining the extent to which firms' governance orientation and board governance processes impact upon the extent to which boards' fulfil their control role.

Service Role

As an alternative to the agency theory perspective, resource dependency theory suggests the service task is the primary role undertaken by the board of directors (Hillman & Dalziel, 2003; Hillman, 2005; Pfeffer & Salancik, 1978). According to resource dependency theorists, the board of directors provide important resources for a firm by providing a link to the external environment and helping the firm manage its' uncertainties (Boyd, 1990; Hillman, 2005; Pfeffer & Salancik, 1978). Literature from both resource dependency theory and stewardship theory identifies a variety of service tasks played by the board: helping the firm acquire key resources, provision of advice and counsel to management, legitimising the firm in the environment, networking, and mentoring (Boyd, 1990; Davis et al., 1997; Hillman & Dalziel, 2003; Hillman, 2005; Huse, 2007; Pfeffer & Salancik, 1978).

A major issue with the service role of the board, unlike that of the control role, is the lack of a generally accepted definition (Van den Heuvel et al., 2006). As partly noted by Van den Heuvel et al., (2006), service roles are sometimes co-located in the literature within strategy, resource dependency or networking roles (Hillman et al., 2000; Hillman et al., 2003; Johnson et al., 1996; Zona & Zattoni, 2007). Definitions of the service, resource dependency and networking roles provided in Table 4.2 illustrate the ambiguous nature of service role definitions. Zahra & Pearce's (1989) original definition of the service role includes tasks other authors include within what they term the resource provision (or dependency) role, or networking role (Hillman & Dalziel, 2003; Hillman et al., 2008; Zona & Zattoni, 2007). For the purposes of this research the service role of the board is defined below, using a combination of tasks identified variously in the literature as part of the board's service, resource provision, and networking roles.

Helping the firm acquire key resources, provision of advice and counsel to management, legitimising the firm in the environment, networking, and mentoring

Table 4-2. Definitions of Board Service, Resource Dependency, and Networking Roles

	Pearce & Zahra(1992: 412-413)	**Johnson et al., (1996: 410)**	**Forbes & Milliken (1999: 492)**	**Zona & Zattoni (2007: 853-854)**
Service Role	"Representing the firms' interest in the community, linking the firm with its external environment and performing ceremonial functions in the life of the firm."	"Advising the CEO and top managers… initiating and formulating strategy."	"Providing expert and detailed insight during major events, such as an acquisition or restructuring, as well as more informal and ongoing activities, such as generating and analysing strategic alternatives during board meetings."	"A set of related activities, such as evaluating and selecting strategic alternatives that have been developed by top managers, providing advice to improve the quality of strategic decisions, and so on."
		Johnson et al., (1996: 410)	**Hillman & Dalziel(2003: 384-388)**	
Resource Dependency Role		"Facilitating the acquisition of resources critical to the firm's success...a legitimising function".	"Providing legitimacy/ bolstering the public image of the firm…administering advice and counsel, linking the firm to important stakeholders or other important entities, facilitation of access to resources, building external relationships, and aiding in the formulation of strategy or other important firm decisions".	
				Zona & Zattoni (2007: 853-854)
Networking Role				"Facilitate access to resources critical to firm success or survival, play an important role spanning boundaries, making timely information available to managers, to increase the legitimisation of the firm within its environment, and facilitate the firm's access to critical resources".

Similarly to the control role, a small number of empirical studies have attempted to measure the extent to which board processes have affected the fulfilment of the board's service role (Gabrielsson & Winlund, 2000; Van den Heuvel et al., 2006; Wan & Ong, 2005). This study proposes to further this research by examining the extent to which firms' governance orientation and board governance processes impact upon the extent to which boards' fulfil their service role.

Strategy Role

The strategic role of the board is widely recognised in corporate governance literature as one of the major tasks of the board (Baysinger & Hoskisson, 1990; Golden & Zajac, 2001; McNulty & Pettigrew, 1999: Purliese et al., 2009; Ruigrok et al., 2006; Stiles, 2001). Theoretical support for the strategic role of the board is provided by agency theory, stewardship theory, and stakeholder theory. However, the exact nature of boards' strategic involvement differs between the various theories. In the agency theory literature, strategy is commonly separated into strategic management and strategic control (Fama & Jensen, 1983). Agency theorists advocate that, whereas management have strategic management responsibilities, the task of the board is primarily one of strategic control, consisting of decision ratification and evaluation (Fama & Jensen, 1983; Huse, 2007). From an agency theory perspective, the strategic control role is an important one for the board in order to look after the interests of shareholders, by ensuring that strategies result in shareholder wealth maximisation.

In contrast to agency theory, stewardship theory sees the role of the board as a collaborative one as opposed to one of control (Sundaramurthy & Lewis, 2003). Thus, stewardship theorists suggest that the board should collaborate with management in order to develop strategic formulation and implementation. Stewardship theory also provides a theoretical rationale for the mentoring role of the board. According to Shen (2003), the board's mentoring role is part of its strategic role in that it helps the coaching of management in strategic decision-making. Therefore, mentoring similar to collaboration is suggestive of the board being involved in strategic formulation and implementation (Huse, 2007).

Stakeholder theory similarly to stewardship theory suggests the board should be involved in the formulation of strategy, but as with agency theory stakeholder theorists also recommend that the board should be involved in strategic control (Freeman & Evan, 1990). However, whereas agency theory prioritises shareholders in terms of decision control, stakeholder theory contends that the board should look after the interests of all-important stakeholders, not solely shareholders (Donaldson & Preston, 1995; Jones & Wicks, 1999; Phillips et al., 2003).

Similarly to the service role, the identification of what constitutes the strategy role of the board is ambiguous (Van den Heuvel et al., 2006). The Forbes & Milliken (1999) definition of the service role of the board in Table 4-2 is particularly useful in highlighting the tendency of some researchers to include tasks others would identify as part of the board's strategy role (Pearce and Zahra, 1992; Pettigrew, 1992; Zahra & Pearce, 1989). Given the importance that many scholars assign to the strategy role of the board (e.g., Baysinger & Hoskisson, 1990; Golden & Zajac, 2001; McNulty & Pettigrew, 1999: Ruigrok et al., 2006; Stiles, 2001) this research proposes to separate out the strategy role from the service role of the board similarly to Pearce & Zahra (1992), by defining the board's strategy role as:

Helping the firm define its business concept, developing a company's mission, and selecting and implementing a company strategy

Whilst many researchers have articulated the importance of the board's strategy role, there have been few attempts to examine the extent to which board processes impact upon the effectiveness with which boards' carry out their strategy role (Van den Heuvel et al., 2006). The definition issues identified above have, however, played a part in the limited number of studies. For example, in Zona & Zattoni's (2007) study, the service role construct employed uses questions that are found in the strategy role construct employed by Wan & Ong (2005). For this study, following Wan & Ong (2005), the strategy role is separated from the service role, and proposes to further this research by examining the extent to which firms' governance orientation and board governance processes impact upon the extent to which boards' fulfil their strategy role.

4.4 Board Governance Orientation

The extant review of corporate governance literature identified the use of four principal theories: agency, stewardship, stakeholder, and resource dependency. These four theories suggest alternative approaches to corporate governance, primarily as a result of differing assumptions. These different approaches are what I term Board Governance Orientation. Different orientations derive from the different theories in corporate governance an outline of the differences for each orientation is provided in the following section..

Agency Board Governance Orientation

Agency theory is based on assumptions derived from many years of research in economics. The model of human underlying agency theory is that of a rational utility maximising individual operating in their self-interest (Jensen & Meckling, 1976). Thus, the two actors in agency theory, the principal and the agent, both attempt to maximise their own utility.

Large, modern corporations have a separation between ownership and control of wealth (Berle and Means, 1932). Typically, public limited companies in Anglo-Saxon countries have a large number of dispersed owners (principals), no one of which has sufficient shares to control the company. Owners become principals when they contract with executives (agents) to manage the firm on their behalf. As an agent, executives are often seen as having a moral responsibility of looking after the interests of the principals, through the maximisation of shareholder utility. Given the assumption that all actors are self-interested utility maximisers, then there is no problem in agency theory when the principals and agents have identical utility functions (Davis et al., 1997). However, when the interests of principals and agents diverge, then agents motivated by self-interest are likely to enhance their own wealth at the expense of the principals (Fama & Jensen, 1983;

Jensen & Meckling, 1976). Thus, the key problem that agency theory attempts to deal with is how principals try to ensure that agents act in their interest.

Agency theory is, therefore, primarily concerned with two problems occurring in the principal-agent relationship. The first is the expense involved in the principal monitoring the agent's behaviour. The second problem arises from the different attitudes of the principal and agent toward risk (Eisenhardt, 1989). In agency theory, the principal is assumed to be risk neutral, whereas the agent is risk averse (Eisenhardt, 1989). These problems lead to what Jensen & Meckling (1976) refer to as agency costs, incurred as principals/owners attempt to ensure that agents/managers act in the principals' interest. "Agency costs are therefore defined as the sum of the costs of structuring, bonding, and monitoring contracts between agents." (Jensen, 1983: 331). Agency theory then focuses on attempting to solve the above problems using a contractual approach to the firm.

In the contractual approach to the firm (Jensen & Meckling, 1976; Fama & Jensen, 1983; Williamson, 1984; Grossman & Hart, 1986), the firm is viewed as a legal fiction created by a nexus of contracts, written and unwritten, among owners of factors of production and customers. According to Alchian & Demsetz (1972), the firm is just like an ordinary market contracting between two people. Within this framework, managers and financiers sign a contract that specifies what the manager does with the funds provided by the financiers. In addition, the contract also specifies how the returns on the financiers' investment are divided between the manager and the financiers. The contract is therefore written to try and align the interests of both the principal and the agent. The key issue is the adoption of an optimal incentive scheme to align the behaviour of the managers/agents with the interest of owners/principals. According to Eisenhardt (1989), the critical issue is whether an outcome-oriented contract (e.g., stock options, transfer of property rights, market governance) is superior to a behavioural-based contract (e.g. salaries, and hierarchical governance). The determination of the optimal contract is based on the availability of complete information. If the behaviour of the agent is fully observable, a behaviour-based contract is optimal (Eisenhardt, 1989). Alternatively, when the agent's behaviour is not fully observable, an outcome-oriented outcome is superior (Eisenhardt, 1989).

To protect principals' interests agency theorists prescribe various governance mechanisms. As identified by Dalton et al., (2003) the primary mechanisms recommended by agency theorists are alignment and control. The alignment view is broadly concerned with the achievement of congruence in the interests of owners and managers (Fama & Jensen, 1983; Fama, 1980; Jensen & Meckling, 1976. The solution to the problem of managerial self-interest is to align the interests of owners and management through financial incentive schemes, whereby executives receive rewards for successfully fulfilling principals' objectives. In particular, agency theorists advocate equity-based compensation schemes in order to motivate executives to behave in a manner consistent with the attainment of shareholders' (principals') interests. This solution would help ensure managers and owners' interests were more closely aligned and that by achieving this it is presumed firm performance will be improved (Jensen & Murphy, 1990).

A second mechanism to ensure principals' interests are controlled is governance structure. Boards of directors are put in place in order to monitor and control the actions of self-serving managers. According to agency theory, boards that consist of a majority of non-executives (or outside directors) and a separate CEO-chairperson are best positioned to ensure management oversight (Fama & Jensen, 1983). Controlling governance mechanisms are preferred in order to reduce the opportunity for agents from maximising their utility at the expense of the principals (Davis et al., 1997).

Given the emphasis in agency theory on self-interested parties attempting to maximise their utility, and the necessity of board independence in order to reduce managerial opportunism, then a board with an agency governance orientation would be one that consists of the following:

Boards' with an agency governance orientation will consist of a board of directors in which executives and non-executives have diverging goals with each attempting to maximise their own utility, a low trust environment, a separate CEO-chair, and a majority of non-executive directors

Stewardship Board Governance Orientation

Whilst agency theory is based on assumptions from economics, stewardship theory draws its assumptions from psychology and sociology (Davis et al., 1997; Donaldson & Davis, 1991). The model of man underlying stewardship theory is one that is a self-actualising (Argyris, 1973), trustworthy, pro-organisational and collectivist. According to stewardship theorists, higher utility is attained through organisational, collective behaviours than through the individualistic, self-interested behaviours advocated in agency theory (Davis et al., 1997). In stewardship theory, executives are seen as stewards as opposed to agents. The important difference being that stewards are trustworthy individuals who are pro-organisational in their outlook and prefer group rewards to individual ones (Davis et al., 1997; Donaldson & Davis 1991).

According to stewardship theory, the steward aims to attain the objectives of the organisation, and thus, in general the steward acts in the interest of the principals (Donaldson & Davis, 1997). Consequently, where a steward-principal relationship arises empowering governance structures and mechanisms are appropriate (Davis et al., 1997; Donaldson & Davis, 1991). Thus, many stewardship theorists argue that stewards' autonomy should be maximised in order to provide the best possible outcome for both the steward and the organisation (Davis et al., 1997).

Furthermore, control is seen as potentially counter-productive as it may undermine the collectivist orientation of the steward and lower their motivation (Davis et al., 1997).

Given that stewards' interests are perceived to align with that of the principals, stewardship theorists contend that corporate governance structures do not require the same degree of monitoring and control to that required by agency theorists. Specifically, boards with a majority of executives and dual CEO-chair are preferable. This is for two main reasons. First, executives are thought to be more knowledgeable about the firm and thus better able to assist with strategic decision-making. Second, executives are seen as stewards whose utility is maximised by the achievement of organisational, as opposed to individual, goals.

Given the emphasis in stewardship theory on empowerment, then firms that have empowering governance structures and mechanisms are boards that can be termed as being of stewardship governance orientation. These arguments lead to the following research construct:

Boards with a stewardship governance orientation will consist of a board of directors with a common goal, a high trust environment, CEO-chair duality, and a majority of executive directors

Stakeholder Board Governance Orientation

In both agency theory and stewardship theory, the firm is assumed to maximise shareholder wealth. Thus, both theories advocate the development of structures and mechanisms of corporate governance to ensure shareholders' interests are prioritised. In contrast to agency and stewardship theories, stakeholder theory views the firm more broadly than one simply owned by the shareholders. Many stakeholder theorists suggest a firm consists of a broad coalition of various interested parties (Donaldson & Preston, 1995; Freeman, 1984; Jawahar & McLaughlin, 2001; Jones & Wicks, 1999; Phillips et al., 2003). Freeman (1984) highlighted the more limited attention executives should pay to shareholders by suggesting that managers should balance the financial interests of shareholders with the interests of other stakeholders, including employees, customers, and the local community. In stakeholder theory, shareholders are just one group and whose interests are not necessarily treated as paramount (Phillips et al., 2003). Of particular interest with regard to corporate governance of firms is the suggestion by Freeman & Evan (1990) that all stakeholders are accorded voting rights and not just shareholders. Whilst this may not be easy to achieve, recognition of stakeholder groups could be achieved through membership of the board of directors.

Given that stakeholder theorists do not accept the primacy of shareholders, stakeholder theory advocates an alternative measure of firm success to both agency theory and stewardship theory. Whilst the latter two judge a firm's success by shareholder value, stakeholder theorists suggest that maximising the balanced interests of the stakeholder groups is a more appropriate measure of firm success. One significant issue here is the, hitherto, lack of a clear single measure upon which to make judgement of success (Jensen, 2002). However, there has been increasing attention paid, in recent years, to firms' corporate social responsibility and more use of CSR and corporate social performance (CSP) measures. Thus, firms who have stakeholder representation on the board, and pay as much attention to CSR and CSP as to financial measures may be defined as boards with a stakeholder governance orientation. This leads to the following research construct:

Boards with a stakeholder governance orientation will consist of a board of directors that is made up of the differing stakeholder groups, and will attempt to balance the interest of all appropriate stakeholder groups.

Resource Dependency Board Governance Orientation

According to resource dependency theory, board members provide resources, such as information skills, advice and counsel to management, access to key stakeholders, and legitimacy, to a firm (Gales & Kesner, 1994; Pfeffer & Salancik, 1978). In their helpful categorisation of director types, Hillman et al., (2000) suggest that each different director group is able to provide a variety of resources to firms, and that a firm's performance is directly related to the quality and quantity of resources by the board of directors. Furthermore, empirical evidence provides some support for the resource dependency theorists' contention that the structure of the board varies as firms' external environment changes (Boyd, 1990; Gales & Kesner, 1994; Hillman et al., 2000).

Drawing on the logic of resource dependency theory, firms whose boards provide a variety of resources to management in order to manage the external environment and in particular to deal with uncertainties may be termed boards with a resource dependency governance orientation. This contention leads to the following research construct:

Boards with a resource dependency governance orientation will consist of a board of directors that reflects the firm's external environment and that provides a variety of resources in order to manage the external environment

The above arguments lead to the first hypothesis

H1: Firms have boards with different board governance orientations.

4.5. Board Governance Orientation and Board Roles

Corporate governance theories suggest that boards may have differing board governance orientations. From the extant review of the literature four board governance orientations have been identified: agency, stewardship, stakeholder, and resource dependency. Evidence from a study of seven cases by Nicholson & Kiel (2007) suggests agency theory, stewardship theory and resource dependency theory can explain the results in different cases. This finding suggests that different boards have different orientations and these will have a differential impact upon board role performance. The following sections will examine each of these orientations and their hypothesised impact in detail. However, the above argument leads to the following hypothesis:

H2: Boards with different board governance orientations will have a differential impact upon board role performance.

Agency Board Governance Orientation and Board Role Performance

According to agency theorists, the primary role of the board of directors is to control the actions of self-interested agents (managers) to ensure they are acting in the interests of the principals (shareholders) (Dalton et al., 2003; Eisenhardt, 1989; Fama & Jensen, 1983). This control takes three forms: output control, behavioural control, and strategic control (Huse, 2007). As Eisenhardt (1989) notes, behavioural control is favoured when the principals can fully observe the actions of the agents, however given the agency theorists emphasis on information asymmetries then output control is often preferred (Jensen & Meckling, 1976).

The third and final aspect of control considered within agency theory is that of strategic control (Huse, 2007). Agency theorists separate out strategy into decision management and decision control. The former is considered a task to be undertaken by the management, whereas the latter is seen as a major task of the board (Fama & Jensen, 1983). According to agency theorists, such as Fama & Jensen (1983), strategic control should include the ratification of decisions taken by management, and the monitoring of the impact of these decisions.

An important result from the separation of strategic management and strategic control is the limit agency theorists place on the role of the board in advising management on strategy. As Zahra & Pearce (1989) note, whilst agency theorists suggest that the strategy role is important, especially when critical decisions are required, such as during acquisitions or restructuring, there is a limited outline in the agency theory literature of the content of the strategic contribution. Thus, agency theory provides a more limited rationale for the board's strategic role than it does for its control role. Whilst Zahra & Pearce (1989) propose that agency theorists adopt a broad definition of board roles and also include the service role, there is little theoretical rationale in the agency literature for the service role. In addition, there is little attention in the agency based empirical literature to the board's service role. One could go so far to suggest that the separation between decision control and decision management suggests no theoretical rationale for the third board role, that of service. These arguments lead to the following hypothesis:

H3: Firms with an agency governance orientation will have high levels of board control role, moderate levels of board strategy role, and low levels of board service role.

Stewardship Board Governance Orientation and Board Role Performance

In agency theory, there is a great emphasis on managerial opportunism. Stewardship theory, on the other hand, is at the opposite end of the trust spectrum. Stewardship theorists suggest that managers are trustworthy individuals who will look after the interests of the owners of the organisation (Davis et al., 1997). Logically, following the behavioural assumption of managers as trustworthy and altruistic stewards of the organisation, the board has a very limited control role in stewardship theory. Illustrating this is the stewardship theory emphasis on boards collaborating with management (Donaldson & Davis, 1991; Davis et al., 1997). Further highlighting this is the recommendation by stewardship theorists that there should be CEO-chair duality, and a board dominated by executive directors in order to provide clear direction and control (Davis et al., 1997).

Thus, as identified by Huse (2007), the primary roles of the board in stewardship theory are that of strategy and service. Given the collaborative role of the board (Sundaramarthy & Lewis, 2003), then stewardship theory clearly advocates an important role for the board in helping management in developing strategy to achieve the objectives of the firm (Huse, 2007). In addition, according to stewardship theorists an insider-dominated board would have greater knowledge of the firm and thus be better placed to contribute to strategic decision-making (Davis et al., 1997).

Whilst stewardship theory places emphasis on some of the service tasks of the board, specifically mentoring management, the internal perspective suggests a more limited service role for the board than some other theoretical perspectives, particularly resource dependency theory. These arguments lead to the development of the following hypothesis:

H4: Firms with a stewardship board governance orientation will have high levels of board strategy role, moderate levels of board service role, and low levels of board control role.

Resource Dependency Board Governance Orientation and Board Role Performance

According to resource dependency theorists, the primary role of the board is a service one linking the organisation with its external environment (Hillman & Dalziel, 2003). The board is considered to be a 'boundary spanner', that is able to help the firm acquire important external resources, and thus reduce the environmental uncertainty facing the organisation (Hillman et al., 2000; Pfeffer & Salancik, 1978). In fulfilling their service task, resource dependency theorists suggest board members provide resources, such as information skills, advice and counsel to management, access to key stakeholders, networking, and legitimacy, to a firm (Carpenter & Westphal, 2001; Gales & Kesner, 1994; Hillman et al., 2000; Pfeffer & Salancik, 1978).

It is clear from a resource dependency perspective that the primary tasks of the board are to provide service to the management. The seminal work from Pfeffer (1972) and Pfeffer & Salancik (1978) suggests that board directors are resources of the firm's management and use their resources for the benefit of the organisation. The helpful categorisation of director types by Hillman et al., (2000) also suggests different directors provide alternative resources to the organisation. Inside directors are seen as those most knowledgeable about the firm and thus best placed to contribute to strategic decision-making, whereas other directors provide an external focus to help the development of strategy (Hillman et al., 2000; Huse, 2007). Thus, while the service task of the board is heavily emphasised, there is implicit recognition of the strategy task, though as identified by McNulty & Pettigrew (1999) whilst there is considerable emphasis on how boards attain resources, there is little explicit attention to the boards' use of such resources. Thus, theoretically from a resource dependency perspective, the strategic task of the board is given a more limited rationale.

The third board role, control, is largely ignored by resource dependency theorists. Thus, these arguments lead to the following hypothesis:

H5: Firms with a resource dependency board governance orientation will have high levels of board service role, moderate levels of board strategy role, and low levels of board control role.

Stakeholder Board Governance Orientation and Board Task Performance

The stakeholder model of the firm suggests that the firm should serve the interests of a wider constituency than the shareholder model. According to stakeholder theorists, stakeholders such as employees, customers, creditors, suppliers, and the local community have long-term relationships with the firm and affect its long-term success (Donaldson & Preston, 1995; Freeman, 1984; Jones & Wicks, 1999; Mitchell et al., 1997). Stakeholder theorists place emphasis on a balance between the various stakeholder groups and thus stakeholder theory also suggests a balance in the differing board roles (Donaldson & Preston, 1995; Freeman, 1984; Jawahar & McLaughlin, 2001; Jones, 1995; Jones and Wicks, 1997; Mitchell et al., 1997; Reynolds et al., 2006).

In providing a stakeholder interpretation of corporate governance, Freeman & Evan (1990) propose that a firm consists of a series of multilateral contracts among differing stakeholder groups. Drawing on this notion, Freeman & Evan (1990) propose that differing stakeholder groups should be represented on the board and accorded voting rights. Specifically, Mitchell et al., (1997) suggested that including stakeholder representation on the corporate board provides a formal mechanism that recognises their importance to the success of the firm. This notion has much in common with that of instrumental stakeholder theory, which argues that firms should take into account multiple interests of stakeholders in order to enhance the economic performance of the corporation (Jones, 1995). According to Blair (1995), corporate governance systems and contractual arrangements should be devised in such a way to ensure appropriate stakeholder groups are assigned control rights, rewards, and responsibilities. From these arguments, it is clear that stakeholder directors have an important control role, one that monitors the management in order to look after the interests of the various stakeholder groups. In addition, stakeholder theorists have often recognised the importance of managerial decisions balancing the interests of different stakeholder groups (Reynolds et al., 2006). Thus, stakeholder theorists (e.g., Mitchell et al., 1997) suggest that a board representing the different stakeholder groups would be better placed to control management.

Whilst it is clear that stakeholder theorists advocate a control role of the board, there is an issue over the performance measures appropriate for determining the extent to which the control role has been performed successfully. Jensen (2002) whilst accepting the arguments of instrumental stakeholder theory strongly supports the notion of a single measure of performance and decision taking being based on a single criterion: maximising shareholder value. According to Jensen and other financial economists, decisions that are based on multiple performance measures give the opportunity for managers to trade off one group of stakeholders against another and ultimately benefit the managers themselves (Jensen, 2002). In addition, different stakeholder groups are liable to 'look-after' their particular interest without paying similar attention to other areas. Consequently, whilst a board with a firm stakeholder orientation would have a significant control role, it is likely to be lower than an agency oriented board.

This discussion highlights how a contractual approach to corporate governance recognises the different stakeholder interests through board membership and thus suggests an important control role for the board. A second important role for the board highlighted by stakeholder theory is a service role. Various authors have argued that by including stakeholder groups on the board, firms' are signalling their commitment to stakeholders in a visible manner, such that this may increase legitimacy for the firm and increasing a firm's linkages to the external environment (Hillman et al., 2001; Mitchell et al., 1997). As highlighted by Hillman & Keim (2001), the resource-based view of the firm (Barney, 1991 & 2001; Penrose, 1959; Wernerfelt, 1984) argues that a firm's ability to perform better than its rivals is a result of obtaining and deploying superior resources. A number of researchers have suggested that different stakeholders can bring important resources to the corporation, including reputation, long-term relationships with suppliers and customers that help reduce external uncertainties, and knowledge (Barney & Hansen, 1994; Hillman & Keim, 2001; Rao, 1994; Ring & Van den Ven, 1992). Such argument is suggestive that stakeholder directors are providing an important service role for the corporation.

The final role often cited in the board literature that of strategy is also given prominence in stakeholder theory. In his seminal contribution, Freeman (1984) identified the importance of stakeholder management to strategic management. Similar to the arguments propounded by the resource-based view of the firm, Freeman (1984) suggested different stakeholder groups bring important resources to organisations that enable them to develop better long-term strategies. Principally, stakeholders bring specific knowledge and expertise about the needs and wishes of the different stakeholders that enable boards to develop better strategies to attain corporate goals (Freeman, 1984). By giving managers a better understanding of stakeholders it enables the organisation to develop appropriate strategies to outperform competitors. Stakeholder and other theorists have observed that developing better relationships with important stakeholders is important to enhancing economic and financial performance (Hill & Jones, 1992; Hillman & Keim, 2001; Jensen, 2002; Jones, 1995; Prahalad, 1997). In addition, whilst there have been few studies in the area, a number support the contention that stakeholder management improves financial performance (Berman et al., 1999).

These arguments highlight the balanced approached oft advocated by stakeholder theorists (Reynolds et al., 2006), that the board should actively engage in balancing the interests of all relevant stakeholders. In light of this balanced approach the following hypothesis is offered:

H6: *Firms with a stakeholder board governance orientation will have moderate levels of board service role, moderate levels of board strategy role, and moderate levels of board control role.*

4.6. Board Role Performance and Board Effectiveness

The Forbes & Milliken (1999) model suggested two criteria of board effectiveness: (1) board task performance, defined as, "the board's ability to perform its control and service tasks effectively" (1999: 492), and (2) the board's cohesiveness. In their model, cohesiveness is viewed as a board-level outcome (Forbes & Milliken, 1999). Small teams literature suggests cohesiveness is a team process that will impact upon the way teams are able to work together (Beal et al., 2003; Gully et al., 1995; Mullen & Copper, 1994). Thus, in this model cohesiveness is not treated as a board outcome, but as a board process that influences the way the board of directors carry out their control, service, and strategy roles. Further, this research proposes that board effectiveness is defined as the board's ability to successfully carry out their control, service and strategy roles.

Recently, a relatively small number of researchers have attempted to measure how effectively boards have been able to carry out a variety of roles/tasks (Gabrielsson & Winlund, 2000; Van den Heuvel et al., 2006; Wan & Ong, 2005; Zona & Zattoni, 2007). However, none of these studies have used their results to provide an aggregated measure of board effectiveness. This research provides a fuller contribution to board studies by using an aggregated measure of board effectiveness. Thus, board effectiveness is proposed to be the value-added created by the board. Many researchers have contended that the board's performance or effectiveness is enhanced when it is able to carry out their different roles successfully it is proposed that board role performance leads to board effectiveness (Huse, 2005; Pye & Pettigrew, 2005). Drawing on these arguments and empirical studies, it is proposed that board control, service, and strategy role performance directly influences board effectiveness, thus leading to the following set of hypotheses.

H7a: Board control role performance is positively related to board effectiveness.

H7b: Board service role performance is positively related to board effectiveness.

H7c: Board strategy role performance is positively related to board effectiveness.

4.7 Board Governance Processes and Board Role Performance

In arguing that board effectiveness can be measured by the the value added by the board and that board role performance leads too board effectiveness, the next step is to examine the board processes that are likely to affect the ability of the board to perform these roles and subsequently impact on board effectiveness. In this model, these board processes are termed board governance processes. Drawing on both the board and the small groups literature six processes are proposed: cohesiveness, communication, conflict, effort norms, the use of knowledge and skills, and trust. This section will discuss these processes in more detail and develop hypothesis of each process's effect upon board performance.

Cohesiveness

Identically to Forbes & Milliken (1999), board cohesiveness is defined as "the degree to which board members are attracted to one another and are motivated to stay on the board" (p. 496). In order to work together successfully board members are likely to have to have a certain degree of interpersonal attraction (Forbes & Milliken, 1999; Williams & O'Reilly, 1998). For this reason then, board cohesiveness is proposed to influence the effectiveness with which board members perform their control, service, and strategy tasks. Some level of cohesiveness is necessary for boards to be willing to work together and have any degree of effectiveness (Beal et al., 2003; Gully et al., 1995; Mullen & Copper, 1994). However, it is unlikely that the relationship between board cohesiveness and board role performance would be a simple direct one. Many small group researchers suggest high levels of cohesiveness are an antecedent of groupthink – a dysfunctional mode of group decision-making characterised by a lack of independent thinking and a tendency to accept decisions without critical questioning (Janis, 1983; Mullen & Copper 1994). Groupthink is likely to lead to decisions being accepted unanimously without any dissension and thus very high levels of cohesiveness are likely to prove detrimental to the quality of board decision-making (Forbes & Milliken, 1999). Consequently, in agreement with Forbes & Milliken (1999), the relationship between board cohesiveness and board effectiveness is proposed to be curvilinear mediated by the board control role, service role and strategy role. This leads to the following hypotheses:

H8a: Board cohesiveness has a curvilinear relationship with board effectiveness.

H8b: This relationship is mediated by the board control role, service role and strategy role.

Communication Quality

Research in organisational communication suggests that communication is an important medium through which work groups can reduce ambiguity, process information, and coordinate activities (Johnson, 1993). Given the importance of these activities for decision-making, communication is an important process that is likely to influence the operational effectiveness of the board of directors. Huse (2007) points to the importance of both formal and informal communication in aiding the effectiveness of boards.

The literature generally treats communication as a multi-dimensional construct consisting of three to five dimensions: frequency, bi-directionality, quality, formality, and co-erciveness of content (Fisher et al., 1997; Mohr et al., 1996; Massey & Dawes, 2007). For all small groups, including the board of directors, the critical factor is the quality of communication (Johnson, 1993). This research is therefore primarily concerned with the quality of communication, defined as the credibility, ease of understanding, relevance, and usefulness of the information provided for the board. Thus, this research draws on the recent conceptualisation of communication quality of Massey & Dawes (2007). Empirical evidence views communication quality as an indicator of positive outcomes (Maltz & Kohli, 1996; Massey & Dawes, 2007; Menon et al., 1999; Smith et al., 1994). Various studies suggest that good quality information is necessary to promote positive dialogue, improve relationships, and improve decision-making (Smith et al., 1994). Conversely, these studies show that poor quality information and communication have negative effects (Maltz & Kohli, 1996; Massey & Dawes, 2007; Menon et al., 1999). A number of board researchers have also pointed to the importance of the quality of communication and information for the board to be able to successfully carry out their roles (Huse, 2005 & 2007; Sherwin, 2003). This empirical evidence leads to the proposal that communication quality has a direct positive effect upon board effectiveness, mediated by the board's control, service and strategy roles and leads to the following hypotheses

H9a: Communication quality is positively related to board effectiveness.

H9b: This relationship is mediated by the board's control role, service role and strategy role.

Cognitive Conflict

In Forbes & Milliken's (1999) seminal paper, cognitive conflict was identified as one of three board processes affecting board task performance. A very small number of studies have followed Forbes & Milliken's lead by examining the impact of cognitive conflict on board role (or task) performance (e.g., Zona & Zattoni, 2007). This study proposes to further our understanding of the impact of conflict on board role performance by following the study of Wan & Ong (2005) and drawing upon Jehn's (1995) separation of conflict into cognitive conflict and affective conflict.

A significant body of research in both the small groups and the conflict literature views cognitive conflict as having beneficial outcomes. Cognitive conflict is generally seen as task-oriented conflict that allows greater cognitive understanding of the issues being considered by groups (Amason, 1996; Dawes & Massey, 2005; Jehn, 1997; Simons & Peterson, 2000). A number of empirical studies, including studies of top management teams suggest that cognitive conflict allows groups to make better decisions when conflicting views are presented leading to superior outcomes (Amason, 1996; Bourgeois, 1985; Eisenhardt et al., 1997; Pelled et al., 1999; Schweiger et al., 1989).

Evidence on boards shows wide variations in the extent to which they experience cognitive conflict (Lorsch and MacIver, 1989; Mace, 1971; Zona & Zattoni, 2007). Some boards are seen as ‘rubber stampers’, where there is little discussion and no disagreement, whereas others promote open debate and active disagreement (Huse, 2005; Mace, 1971; Roberts et al., 2005). Importantly, Finkelstein & Mooney (2003) contend that engaging in constructive conflict is a key process in improving board effectiveness. A number of recent studies also suggest that boards where CEOs actively seek out alternative viewpoints outperform those firms where CEOs prefer a lack of cognitive conflict (MacDonald & Westphal, 2003; MacDonald et al., 2008). In addition, findings from a study of boards in Singapore by Wan & Ong (2005) suggest that cognitive conflict is strongly related to strategy role performance. Surprisingly, Zona & Zattoni (2007) found no significant relationship between cognitive conflict and their measures of control task and service task performance. The latter construct draws primarily on tasks this research identifies as part of the boards’ strategy role. Their results, however, find cognitive conflict as being significantly related to networking role performance, a construct utilising tasks this research defines as part of the board’s service role. Whilst recognising there are a small number of empirical studies that suggest that cognitive conflict does not always have beneficial results, the majority of theory and evidence suggests that cognitive conflict is beneficial to group outcomes. Thus, it is expected that where there is cognitive conflict among the board of directors this will have positive effects on board effectiveness mediated by the board control role, service role and strategy role, thus leading to the following hypotheses:

H10a: Board cognitive conflict is positively related to board effectiveness.

H10b: This relationship is mediated by the board control role, service role and strategy role.

Affective Conflict

Conversely, research from the conflict and small groups literature suggests affective conflict as having dilatory effects on group performance. Affective conflict occurs principally as a result of relationship or behavioural conflict, whereby the information processing capabilities and decision-making abilities of a group are adversely affected by relationship difficulties (Amason, 1996; De Dreu & Weingart, 2003; Simons and Peterson, 2000). Empirical evidence largely supports the notion that affective conflict has a negative effect on performance outcomes (De Dreu & Weingart, 2003; Gladstein, 1984; Langfred, 2007; Li & Hambrick, 2005; Wall and Nolan, 1986). In addition, Finkelstein & Mooney (2003) argue that to enhance board effectiveness it is imperative that destructive conflict that occurs through personal animosities is avoided in the boardroom. The study by Wan & Ong (2005) on board structure, processes and role performance for public-listed companies in Singapore suggests affective conflict has a negative effect on strategy role performance. Consequently, both theory and evidence suggest that where there is affective conflict among the board of directors this would have a negative effect on board effectiveness mediated by the control role, service role, and strategy role of the board.

H10c: Board affective conflict is negatively related to board effectiveness.

H10d: This relationship is mediated by the board control role, service role and strategy role.

Effort Norms

According to Wageman (1995), "Effort norms are a group-level construct that refers to the group's shared beliefs regarding the level of effort each individual is expected to put toward a task" (Forbes & Milliken, 1999: 493). Drawing on Zona & Zattoni (2007), effort norms in this research refer to "the board's shared beliefs on the level of effort each director is expected to put towards a task". Various researchers have suggested that group norms often exert a strong influence on members' behaviour (Feldman, 1984; Wageman, 1995). According to Forbes & Milliken (1999) group effort norms can enhance the effort of individual group members, and consequently improve the performance of the group.

Early board researchers attributed one cause of poorly performing board of directors to a lack of effort (Lorsch, 1989; Mace, 1970, 1986). Whilst more recent board researchers suggest boards are more active than in earlier periods, there is still evidence of differing effort norms (Roberts et al., 2005). In more active boards, directors actively participate in discussions, aid the execution of specific board tasks, and utilise their skills for the best benefit of the board (Gabrielsson & Winlund, 2000; Pye & Pettigrew, 2005; Roberts et al., 2005; Shen 2005). Consistent evidence suggests boards with standards promoting high-effort behaviours are more likely to enhance board effectiveness mediated by the control role, service role, and strategy role of the board (Gabrielson and Winlund, 2000; Huse, 2005; Roberts et al., 2005; Wan & Ong, 2005; Zona & Zattoni, 2007), thus leading to the following hypotheses:

H11a: Boards effort norms are positively related to board effectiveness.

H11b: This relationship is mediated by the board control role, service role, and strategy role.

The Use of Knowledge and Skills

Psychological literature examining small groups suggests that the mere presence of knowledge and skills does not guarantee its use or application (Forbes & Milliken, 1999; Jackson, 1992). With regard to board governance processes, the use of knowledge and skills refers to the board's ability to utilise the knowledge and skills available to it and then to apply such knowledge and skills to required board tasks (Forbes & Milliken, 1999). The use of knowledge and skills was introduced as a construct by Hackman & Morris (1975), and relates to "collective learning" among group members (Hackman, 1987: 327). According to Cohen & Bailey (1997), the use of knowledge and skills is related to the behavioural dimension of social integration, thus affecting a group's ability to co-operate.

As highlighted by Forbes & Milliken (1999) for boards to perform their tasks effectively, they must combine and apply their knowledge. Empirical studies support the notion that the use of knowledge and skills is important in determining group effectiveness (Eisenhardt, 1989; Wageman, 1995). As such it would be expected that boards of directors that make better use of their knowledge and skills would perform their control, service and strategy roles to a higher standard. Findings from a number of recent studies (e.g., Wan & Ong, 2005; Zona & Zattoni (2007) support the contention that boards' effectiveness is enhanced when boards make greater use of their knowledge and skills. These arguments lead to the following hypotheses:

H12a: Board use of knowledge and skills is positively related to board effectiveness.

H12b: This relationship is mediated by the board control role, service role and strategy role.

Trust

This model draws partly on Gillespie & Mann's (2004) study of trust. Using a 21-item global trust scale, comprising dimensions of three types of trust – cognitive, affective, and behavioural – Gillespie & Mann (2004) found that developing trust is a key to developing and sustaining team effectiveness. In a further finding, trust towards leaders was created through team consultation, clear communication, and a shared vision amongst team members (Gillespie & Mann, 2004).

Similarly to Gillespie & Mann (2004), a number of theoretical models and empirical results have shown interpersonal trust to be an important determinant of team effectiveness (Costa, 2003; Lee, 2004). Given that the board of directors is treated as a small team in this model, and the importance that various researchers have found for trust in improving team effectiveness, it is reasonable to assume that interpersonal trust within the board is an important predictor of board success. Very few studies have attempted to examine the impact of trust on board role performance. In one of the few studies examining trust on boards, Van Ees et al., (2008) investigated trust as a moderator of the relationships between three board processes and the boards' monitoring performance in a study on board effectiveness in the Netherlands. Their results showed trust to negatively moderate the relationship between the use of knowledge and monitoring performance, but they found no other significant results. This study identifies the need for further study of the effect of trust on board effectiveness (Van Ees et al., 2008). Studies of the effect of trust in ongoing teams have consistently shown that trust is beneficial towards team effectiveness (Costa et al., 2001; Costa, 2003; De Jong & Elfring, 2010; Gillespie & Mann, 2004; Lee, 2004; Mach et al., Schippers, 2003). However, the effect of trust on the ability of the board to carry out their different roles may have more in common with the the studies of trust in short-term teams where trust has been found to have both positive and negative effects (Dirks, 1999; Langfred, 2004 & 2007).

In performing their service role, board members require a considerable amount of trust. For example, according to Westphal (1999) there is a positive correlation between levels of trust between the CEO and the board and various measures of firm profitability. In order to accept advice and counsel from non-executive board members, executive board members would be likely to have to trust their fellow board members (Gulati & Westphal, 1999). In addition, to help with making strategic decisions, board members have to place trust in the information and advice being provided within the board (Gulati & Westphal, 1999; Westphal, 1999; Westphal & Khanna, 2003; Westphal et al., 2006). Higher levels of trust in the boardroom are likely to lead to greater involvement from all the board members in strategic decision-making (Sherwin, 2003). Thus, trust in the boardroom is likely to enhance the board's service and strategy role performance.

In contrast to the benefits of higher trust for the performing of the board's service and strategy tasks, higher levels of trust are likely to mean the board is less likely to engage in its' control task. A higher disposition to trust is likely to mean the board feels it is less necessary to monitor the behaviour of the management. Thus, where there are higher levels of trust the board is likely to accept that the actions of the management are consistent with the interests of shareholders. Consequently, the board will not feel the need to engage in close monitoring of the management. Alternatively, where there are low levels of trust in the boardroom the board is likely to be more involved in their control role. Low trust is likely to lead board members to doubt that the actions of managers are in shareholders' interests and thus become more active in their control and monitoring task. These arguments lead to the following hypotheses:

H13a: Board trust is positively related to board effectiveness

H13b: This relationship is mediated by the board control role, service role and strategy role.

4.8 Discussion and Summary

This chapter started by highlighting the concerns of many researchers that despite over 30 years of extensive research in the field of corporate governance there is much we still do not know about the factors that contribute to board effectiveness. Whilst there have been a few recent studies examining board processes and how they affect the way boards undertake a variety of roles, there have been numerous calls for more research studying board behaviour. This chapter provides a contribution to this board process research with the development of a new model from which a variety of hypotheses are developed.

The model introduces a new concept, board governance orientation derived from four existing theories in corporate governance. This follows the calls from researchers for a multi-theoretic approach (e.g., Lynall et al., 2003) to corporate governance in general and, specifically to, the board of directors (Nicholson and Kiel, 2007). The argument here is that boards have alternative approaches to corporate governance. These different approaches can help explain the extent to which boards may vary in the emphasis placed on the different roles they undertake.

The model follows the lead of Forbes & Milliken (1999) by treating the board of directors as a small group and in order to understand what makes a board effective it is necessary to understand the factors influencing board behaviour. This model provides a valuable contribution to this research by identifying a more comprehensive list of board processes than hitherto has been considered in the board process literature.

The model is similar to empirical studies (e.g. Gabrielsson & Winlund, 2000; Wan & Ong, 2005; Zona & Zattoni, 2007) examining the affect of board processes on board effectiveness or performance by contending that these processes influence the way boards carry out their differing roles discussed in board literature. This model adopts the board roles suggested by Zahra & Pearce (1989) and highlighted by Ruigrok et al., (2006) as the three interrelated roles facing boards, viz., control, service and strategy.

The next chapter will outline the methodology and methods used to test the model and the hypotheses outlined in this chapter.

Chapter 5:

Research Design and Methodology

5.1. Introduction

This chapter reviews choices of research design and methodology and their strengths and weaknesses respectively. Considering the nature of this research, which aims to identify causal relationships between variables, the research design and methodology employed in this research is primarily quantitative. Data analysis is conducted using SPSS. As quantitative research is theory-driven and conducted in a deductive manner, it is important that the research constructs, models and hypotheses are based on strong theoretical and conceptual foundations. For this requirement, an extensive literature review on all theoretical dimensions in relation to this particular research has been conducted and this is reported in Chapters 2, 3 and 4. This chapter will be structured as follows. First, there is a discussion of alternative research designs and research paradigms. Second, the chosen research method and design in which this research will be conducted are outlined. Third, this research uses a quantitative approach with data collected via a postal survey. Details pertaining to the data collection, including sampling frame, sample response rate, and non response bias are detailed. The final part of this chapter will report on the tests to ensure validity and reliability of the measurement model.

5.2. Research Design

Saunders et al., (2009, p. 136) provide a basic definition of research design, "will be the general plan of how you will go about answering your research question." Alternatively, Royer & Zarlowski (2001, p. 111) define research design as "the framework through which the various components of a research project are brought together: research question, literature review, data, analysis and results." Kerlinger (1986, p. 279) in Blumberg et al., (2008) provides a more detailed definition,

"Research design is the plan and structure of investigation so conceived as to obtain answers to research questions. The plan is the overall scheme or program of the research. It includes an outline of what the investigator will do from writing hypotheses and their operational implications to the final analysis of data. A structure is the framework, organisation, or configuration of ... the relations among variables of a study. A research design expresses both the structure of the research problem and the plan of investigation used to obtain empirical evidence on relations of the problem."

Whilst definitions differ what is common in these is a clear view that research design is core to the entire research activity. "The research design constitutes the blueprint for the collection, measurement and analysis of data" (Phillips, 1971, p. 93). It is a framework for specifying the relationships among the study's variables (Blumberg et al., 2008). It outlines the overall structure and orientation of the concerned study, presenting a logical proof to draw inferences regarding causal relations among variables under investigation (Bryman & Bell, 2007; Blumberg et al., 2008). Research design involves selection of research methods, sampling, data collection, analysis and interpretation (Blumberg et al., 2008; Bryman & Bell, 2007). It also outlines how resources are best utilised in terms of cost and time (Blumberg et al., 2008). According to Blumberg et al, (2008, p. 195), an effective research design is one with the following features:

- an activity- and time-based plan,
- is based on the research question,

- guides the selection of sources and types of information

- is a framework for specifying the relationships among the study variables

- outlines procedures for every research activity.

The most prominent challenge to research design is its validity and reliability (Dainty in Smith & Dainty, 1991). Validity refers to the extent to which a test measures what we actually wish to measure or how accurately the research has been conducted (Blumberg et al., 2008; Podsakoff & Dalton, 1987). Yin (2009) discusses four basic tests to evaluate the quality of research design, namely construct validity, internal validity, external validity, and reliability. Construct validity is about identifying the correct operational measures for the concepts being studied. Internal validity is seeking to establish a causal relationship, where certain conditions lead to other conditions, as distinguished from spurious relationships. External validity defines the domain to which a study's findings can be generalised. Reliability demonstrates that the operations of a study can be repeated with the same results. Various authors suggest four types of validity: face validity, content validity, construct validity, and nomological validity (Behling, 1980; Berelson & Steiner, 1964; Podsakoff & Dalton, 1987). Alternatively, Blumberg et al., (2008) suggest a three form classification: content validity, criterion-related validity, and construct validity. Reliability is about the replicability of a study and thus has to do with the accuracy and precision of a measurement procedure (Blumberg et al., 2008; Podsakoff & Dalton, 1987).

The most widely used research design in the field of social sciences are non-experimental research, where the researcher is not in a position to interfere with or manipulate the natural setting of the organisation (Bennett in Smith & Dainty, 1991). There are generally three main categories of non-experimental research design, namely survey research, qualitative research, and case study research.

Before discussion of the research design of this thesis, there are two concepts to be clarified: research paradigms, and research methods. Research paradigms include the qualitative paradigm, where the researcher uses an inductive, emerging qualitative stance in a study, and the quantitative paradigm, where the researcher conducts a deductive, theory-driven study (Bennett in Smith & Dainty, 1991). Research methods refer to data collection techniques. Qualitative methods use such data collection techniques as observations and interviews, whilst quantitative methods use such data collection techniques as surveys and experiments.

Research Paradigms

The quantitative paradigm is alternatively termed the traditional, the positivist, functionalist, or the empiricist paradigm following the philosophical traditions of various writers including, Bentham, Comte, Descartes, Hume, Locke, and JS Mill (Cottingham in Monk & Raphael, 2000; Quinton in Monk & Raphael, 2001; Russell, 1946; Scruton, 2001; Stumpf & Fieser, 2003). The positivist approach whilst having a long history in philosophical writings is generally seen to have been founded by Auguste Comte in the nineteenth century. Positivists support ontological realism, the possibility and desirability of objective truth, and the use of experimental methodology. The qualitative paradigm is referred to as the interpretative approach, constructivist approach, naturalistic or postmodern perspective. This gained popularity in the 19th century as a counter to positivism initially through the writings of philosophers such as Hegel, Kant, Kiergkegaard and Schopenhauer (Russell, 1946; Scruton, 2001; Stumpf & Fieser, 2003) and further developed in the twentieth century through the works of authors including, Husserl, Heidegger and Sartre (Stumpf & Fieser, 2003).

Quantitative Research Paradigm

The traditional research paradigm is widely recognised as taking a scientific (or quantitative) approach to explore a specific research problem. Quantitative research takes a statistical and mathematical approach to measure and analyse causal relationships (correlations or difference) between variables (Blumberg et al., 2008). There is a general understanding that quantitative research does contribute to more validated, reliable and generalisable research findings subject to effective sampling, testing, and validating processes. Berelson & Steiner (in Behling, 1980) suggest that research should follow the natural science model of research and be based on sound scientific principles. In this regard, according to Berelson & Steiner (in Behling, 1980), the following features of research should be ensured: procedures should be public, definitions precise, the data collection objective, the findings replicable, the approach systematic and cumulative, and the purposes explanation, understanding, and prediction. Further reinforcing this perspective, Behling (1980), suggests that many researchers from a traditionalist perspective hold the view that good research is characterised by careful sampling, precise measurement, and rigorous design and analysis in the test of hypotheses deductively derived from tentative general laws. This approach follows the deductive method of reasoning from the general to the specific (Popper, 1959).

The following propound the benefits of quantitative research, such that it has several strengths over qualitative research:-

- Quantitative research is often concerned with establishing the causal relationships between concepts. Popper (1959, p. 3) observes that, “A scientist, whether theorist or experimenter, puts forward statements, or systems of statements, and tests them step by step.” In the field of the empirical sciences, more particularly, he constructs hypotheses, or systems of theories, and tests them against experience by observation and experiment.

- In quantitative research, researchers are concerned to establish that the results of a particular investigation can be generalised beyond the confines of the research location (Podsakoff & Dalton, 1987). By verifying generality, the quantitative researcher draws nearer to the law-like findings of the sciences. For this reason, qualitative research, which is frequently based on the study of one or two single cases, is often disparaged for the cases may be unrepresentative and therefore of unknown generality (Bryman & Bell, 2007).

- Following a similar argument, philosophers such as Hume and Popper (1959) were strong advocates of a deductive approach to research and critics of an inductive approach. A quantitative approach follows the deductive approach drawing from the general to the specific as opposed to the inductive approach, which draws from the specific to the general.

- The replication of established findings is often taken to be a characteristic of quantitative research. Replication can provide a means of checking the extent to which findings are applicable to other contexts (Podsakoff & Dalton, 1987).

Survey research is the most widely used quantitative approach in the social science field (Alreck & Settle, 2004; Bennett in Smith & Dainty, 1991; Blumberg et al., 2008; Bryman & Bell, 2007; Jobber in Smith & Dainty, 1991). A survey has the capacity for generating quantifiable data on large numbers of people who are known to be representative of a wider population in order to test theories or hypotheses has been viewed by many as a means of capturing many of the ingredients of a science (Alreck & Settle, 2004; Bryman & Bell, 2007). There are some other approaches, such as experiment, analysis of previously collected data, structured observation, and content analysis (Blumberg et al., 2008; Bryman & Bell, 2007).

- Experimental design involves at least two groups to which subjects have been randomly allocated: an experimental and a control group. The experimental group is exposed to an experimental stimulus (the independent variable) while the control group is not. Observed differences are reported between the two groups.

- Analysis of previously collected data involves usage of official statistics, such as crime, suicide, unemployment, health, economy, etc.

- Structured observation is the method whereby the researcher records observations in accordance with a pre-determined schedule and quantifies the resulting data, displays many of the characteristics of quantitative research.

- Content analysis is the quantitative analysis of the communication content of media such a newspaper (Blumberg et al., 2008).

Qualitative Research Paradigm

According to Denzin & Lincoln (2005), any definition of qualitative research must recognise that the history behind qualitative research and the fact that it crosses a wide range of differing philosophical approaches and encompasses a wide range of methods. Thus, Denzin & Lincoln (2005, p. 3) define qualitative research as:

"A situated activity that locates the observer in the real world. It consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. At this level of qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their

natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them."

This definition clearly places qualitative research as emphasising the social and cultural contexts of the study. Further, it places the researcher close to the objects or persons being studied. This also clearly identifies qualitative research in terms of the socially constructed nature of reality where there is an intimate relationship between the researcher and the object of study (Denzin & Lincoln, 2005). Drawing on Becker (1986), Denzin & Lincoln (2005, p. 12) suggest that, "Qualitative researchers use ethnographic prose, historical narratives, first person accounts, still photographs, life histories, fictionalised facts, and biographical and autobiographical materials, among others." Alternatively, Marshall & Rossman (1989) cite a greater variety of qualitative techniques for collecting data which includes in-depth interviewing, participant observation, projective techniques and psychological testing, case studies, street ethnography, elite or expert interviewing, document analysis, and proxemics and kinesics.

Thus, qualitative data consists of capturing the individual's point of view, examining the constraints of everyday life, and securing rich descriptions (Becker 1996). Such rich qualitative data has strong potential for revealing complexity and theory development through rigorous coding and interpretative procedures (Miles & Huberman, 1994).

Miles & Huberman (1994, p. 10) identify various strengths of qualitative data over quantitative data:-

- They focus on natural occurring, ordinary events in natural setting, so that one can have a strong handle on the everyday life of individuals, groups, societies or organisations.

- The data have local groundedness, the fact that the data were collected in close proximity to a specific situation, rather than through the mail or over the phone. This emphasis is on a specific case, a focused and bounded phenomenon embedded in its context. The possibility for understanding latent, underlying, or non-obvious issues is strong.

- Qualitative data are rich and holistic, with strong potential for revealing complexity.

- The data are typically collected over a sustained period and, as such, enable them to be used for studying any process; they can even be used to assess causality as it actually plays out in a particular setting.

- Qualitative data have often been advocated as the best strategy for developing and testing hypotheses, and they are especially useful when one needs to supplement, validate, explain, illuminate, or reinterpret quantitative data gathered from the setting.

Whilst with quantitative analysis there is principally one approach (that is one of deduction where statistical analysis is used to test general theory or concepts), with qualitative analysis there is no single approach. Flick (2006) identifies six schools of qualitative research: Grounded theory; ethnomethodology, conversation, discourse and genre analysis; narrative analysis and biographical search, ethnography, cultural studies, and gender studies. Miles & Huberman (1994) suggest an alternative classification identifying three broad approaches to qualitative data analysis with the six schools of Flick (2006) included within aspects of part of the three categories: Interpretivism, Social Anthropology, and Collaborative Social Research. Interpretivists use textual analysis viewing text as conveying layers of meaning. They also perceive researchers as being part of the research, with their own convictions and conceptual orientations. Social anthropologists use ethnography, staying close to the naturalist profile. Here, observation is important and social anthropologists are interested in behaviours in everyday situations. In collaborative social research, researchers join closely with the participants throughout the research. (Miles & Huberman, 1994). Denzin & Lincoln (2005) offer four general philosophical paradigms utilising qualitative research: positivist and postpositivist, constructivist-interpretive, critical (e.g., Marxist), and feminist-poststructural. They go further by sub-dividing the four paradigms into seven: positivist/postpositivist, constructivist, feminist, ethnic, marxist, cultural studies, and queer theory. The characteristics of the interpretive paradigms presented by Denzin & Lincoln are shown in table 5-1 below:

Table 5-1. Interpretive Paradigms

Paradigm	**Ontology**	**Epistemology**	**Methodological Procedures and Theoretical form**
Positivist/postpositivist	Realist and critical realist	Objective	Experimental, quasi-experimental, survey, rigorously defined qualitative methodologies
Constuctivist	Relativist (multiple realities)	Subjective	Naturalistic using grounded theory or pattern theories
Poststructural, feminist, ethnic, Marxist, cultural studies, queer studies	Materialist-realist (real world makes a material difference in terms of race, class, gender)	Subjective	Naturalistic, especially ethnographies using critical theory

Source: Based on Denzin & Lincoln (2005)

Despite its strength, qualitative research does have its weaknesses. Some of the difficulties in the practice of qualitative research include: access problem of interpretation (Bryman & Bell, 2007), and the problem of data analysis (Miles & Huberman, 1994). Qualitative data are symbolic in nature, and in need of a meaningful interpretation and response (Denzin & Lincoln (2005). Lack of appropriate data analysis and interpretation is likely to support the generic suspicion about the legitimation of qualitative research, in terms of its validity, reliability and generalisability. This, combined with the other issue of its representational crisis (Denzin & Lincoln, 2005), leads to a serious re-evaluation of its effectiveness. Nevertheless, there is no doubt that qualitative research takes the researcher into a specific context to investigate a deeper perspective of the study, and produces insights about a specific case or issue, which cannot be revealed by quantitative analysis.

Table 5-2. Quantitative Versus Qualitative Research Paradigms

Dimensions	**Quantitative Paradigm**	**Qualitative Paradigm**
Nature of reality	Reality is objective and singular, apart from the researcher.	Reality is subjective and multiple, as seen by participants in a study.
Relationship of researcher to that researched?	Researcher is independent from that being researched. Researcher is an outsider – reality is what quantifiable data indicate it to be.	Researcher interacts with that being researched. Researcher is an insider – reality is what people perceive it to be.
Role of values	Value-free and unbiased	Value-laden and biased
Language of research	Formal Non-human Based on the set definitions Impersonal voice Use of numbers	Informal Human Evolving decisions Personal advice Use of words
Process of research	Deductive process Controlled conditions Cause and effect Static design – categories isolated before study Context-free Generalisations leading to prediction, explanation, and understanding Accurate and reliable through validity and reliability tests	Inductive process Naturalistic conditions Mutual simultaneous shaping of factors Emerging design – categories identified during research process Context-bound Patterns, theories developed from understanding Accurate and reliable through verification by gaining real, rich and deep data
Nature of the problem	Previously studied by other researchers so that body of literature exists; known variables; existing theories	Exploratory research; variables unknown; context important; may lack theory base for study
Researcher's psychological attributes	Comfort with rules and guidelines for conducting research; low tolerance for ambiguity; time for a study of short duration	Comfort with lack of specific rules and procedures for conducting research; high tolerance for ambiguity; time for lengthy study.
Research approaches	Experiment Survey and survey research Analysis of collected data Structured observation Content analysis	Biography Phenomenological study Grounded theory study Ethnography Case study

Sources: Based on Blumberg et al, (2008), Bryman & Bell, (2007), Smith & Dainty, (1991) In summary, as shown in Table 5-2 both the quantitative approach and the qualitative approach have their advantages and disadvantages. Various researchers have suggested that differences in qualitative and quantitative research do not necessarily imply the superiority of one methodology compared to the other as a research strategy. Rather, these differences may make one methodology more useful than the other depending on the research question (Hassard, 1991; Ticehurst & Veal, 2000).

Triangulation

A review of both quantitative and qualitative research reveals that each approach has its own strengths and weaknesses, and there is not a single best way to conduct research. This raises the issue of linking paradigms with methods and using multiple methods in research (Hassard in Smith & Dainty, 1991). According to Burrell & Morgan (1979), there are four paradigm models of social theory: radical humanist, interpretative, radical structuralist, and functionalist. According to Hassard (in Smith & Dainty, 1991), these four paradigms are exclusive entities and this creates a problem as to how inter-paradigm understanding can be achieved. There are three schools of thinking regarding this 'paradigm debates'. They are purists, situationalists, and pragmatists (Hassard, 1991). According to purists, paradigms and methods should not be mixed together. On the other hand, the situationalists assert that certain methods are appropriate for specific situations, and the pragmatists intend to integrate multiple methods in a single study, arguing that researchers should take advantage of different paradigms in understanding social phenomena (Hassard in Smith & Dainty, 1991). These latter two thoughts on methods are best described by Ticehurst & Veal (2000) as "horses for courses". Denzin (1978) first borrowed the term 'triangulation' from navigation and military strategy to formalise the concept of employing combined methodologies to enrich data by formal measuring instruments, such as questionnaires and standardised interview schedules, or using them as checks on one another (Denzin, 1989). Hassard (in Smith & Dainty, 1991) suggest that taking a multiple paradigm approach to research allows the researcher to utilise a richness of data not available using a single approach. A further contention of Hazzard (in Smith & Dainty 1991) is that multiple paradigm research realises greater epistemological variety and a more pluralistic approach leads to greater methodological democracy. In advocating a mixed methodological approach, Tashakkori & Teddlie (2003) propose that it would incorporate multiple of approaches in all stages of a study (i.e., problem identification, data collection, data analysis, and final inferences), and would include a transformation of the data and their analysis through another approach. Thus it depicts a more complete picture of a phenomenon, utilising the respective strength of each approach (Blumberg et al., 2008; Bryman & Bell, 2007; Flick, 2006; Hassard in Smith & Dainty, 1991).

Bryman (1992, p. 59-61) identifies multiple ways of integrating quantitative and qualitative methods, what is termed “the logic of triangulation”.

- Qualitative research can support quantitative research, and vice versa;
- Both methods combined can provide a more general picture of the issue being studied;
- Structural features are analysed with quantitative methods and processual approaches with qualitative approaches;
- Whilst the perspective of the researcher(s) drives quantitative approaches, qualitative research emphasises the viewpoints of the subjective;
- The problem of generality can be solved for qualitative research by adding quantitative findings;

- Qualitative findings helps facilitate the interpretation of relationships between variables in quantitative data

- The relationship between micro and macro levels in a substantial area can be clarified by combining qualitative and quantitative research, which can be appropriate in different stages of the research process;

- There are hybrid forms that use qualitative research in quasi-experimental designs.

Denzin (1989) argues that triangulation is actually a combined methodology to study a specific phenomenon. This can be either a 'between-method', providing cross-validation of outcomes, or a 'within method', using a variety of techniques within a stated method to gather information about an aspect of the research that will confirm the outcome.

Jick (1983) describes triangulation as the integration and blending of data and methods on a continuum of simple to complex designs. Simple combination designs are identified as the "quantification of qualitative measures and the use of field observations to strengthen statistical data". On the complexity side, triangulation can "capture a more complete, holistic, and contextual portrayal of the unit(s) under study" (Jick, 1983; p138).

Flick (2006) sees triangulation as combining several qualitative methods and as a means to combine both qualitative and quantitative methods. Further, Flick (2006) contends that by combining differing complementary methodological perspectives the claims for using a mixed methodology are very strong.

Nevertheless, various researchers agree that there is no single theory or research text that explains how to integrate the two methods into a single research study (Creswell, 2009; Flick, 2006;

Jick, 1983; Simon, 1994). Jick (1983, p135) gives the notion that qualitative and quantitative methods should be "viewed as complementary rather than as rival camps", but makes it clear that those who support "mixing methods" fail to provide adequate guidelines on how this should be accomplished. Simon (1994), capitalising on this gap, presents a generative strategy, which argues for combining content analysis, depth interviews, participant observation and a review of the literature with open-ended, non-standardised schedule interviews prior to the use of questionnaires.

A more recent advancement of triangulation is made by Creswell (2009). Based on previous work, he proposes six models of combined designs: sequential explanatory strategy, sequential exploratory strategy, sequential transformative strategy, concurrent triangulation strategy, concurrent embedded strategy, and concurrent transformative strategy.

- The sequential explanatory strategy follows a two-phase research design where the quantitative data is collected and analysed prior to collection and analysis of qualitative data. According to Creswell (2009), a sequential explanatory design uses the collection and analysis of qualitative data to explain and interpret quantitative results.

- The sequential exploratory strategy uses a similar two-phase approach to the research design as the sequential explanatory strategy, except the phases are reversed. In this instance, the qualitative data and analysis preceded the quantitative data and analysis. Here, the quantitative analysis assists the interpretation of qualitative findings, and is best suited to explore a phenomenon (Creswell, 2009).

- The sequential transformative strategy is a two-phase project with a theoretical lens overlaying the sequential data collection phases. The theoretical perspective guides the study and is more important than the use of the methods alone (Creswell, 2009). According to Creswell (2009), the advantages of a sequential transformative researcher are that it may be able to give voice to diverse perspectives, to better advocate for participants, or to better understand a phenomenon or process that is changing as a result of being studied. However, it has a particular problem in that because there is little written on this approach, there is insufficient advice on how to use the transformation to guide the research methods.

- The concurrent triangulation strategy is regarded as the most common of the mixed methods models. In this model, the qualitative and quantitative data are collected and analysed simultaneously and the researcher uses the data to determine if there is confirmation, disconfirmation, cross-validation, or corroboration. The concurrent triangulation approach has the potential to result in well-validated and substantiated findings (Creswell, 2009). However, this model also has important limitations. First, to adequately study two separate methods great effort and expertise is required. Second, comparing results derived from two analyses using data of different forms can be complex. Finally, there may be problems in resolving any discrepancies that occur in comparing results (Creswell, 2009).

- The concurrent embedded strategy uses a primary method to guide the project and a secondary database to support the process. As with the concurrent triangulation model, the concurrent embedded strategy collects quantitative and qualitative data simultaneously. This approach enables the researcher to gain broader perspectives than using the predominant method alone (Creswell, 2009). Creswell (2009) argues that this model has three particular attractions: a single data collection period, the advantages of the two types of data, and by using the two methods, perspectives can be gained from the different types of data or from different levels within the study. There are also weaknesses of this model. First, the data requires to be transformed so they can be integrated within the analysis phase of the research. Second, discrepancies may occur in comparison of two databases. Finally, unequal evidence results from an unequal prioritisation of the two methods may result in a disadvantage when interpreting final results (Creswell, 2009).

- The concurrent transformative strategy is guided by the use of a specific theoretical perspective as well as the simultaneously collection of quantitative and qualitative data. According to Creswell (2009), this approach may be based on an ideology such as critical theory, or a conceptual or theoretical framework. The concurrent transformative model shares features with both the triangulation and the embedded models and thus also shares the strengths and weaknesses of the two approaches. Creswell (2009) argues this model also has the added advantage of positioning mixed methods research within a transformative framework.

5.3. Chosen Research Design and Methods

The above literature review of research design and methodology suggests that there is not a single, standard, correct method of carrying out research. Each design has its own strengths and weaknesses, as does each data collection method. The choice of research design and data collection methods depends on the availability of resources and how best the method can generate the required information (Hassard in Smith & Dainty, 1991; Bennett in Smith & Dainty, 1991). This research is positioned within the board process literature (Gabrielsson & Winlund, 2000; Huse, 2005; Minichilli et al., 2009; Van Ees et al., 2009; Wan & Ong, 2005; Zona & Zattoni, 2007). The approach is deductive in that it builds a model to represent cause, effect, and other relationships drawing on existing theoretical concepts in the literature (Bennett in Smith & Dainty, 1991; Popper, 1959; Raphael in Monk & Raphael, 2001). Because the objective of this research is to establish the relationships between board governance orientation, board governance processes, board role performance, and board effectiveness, quantitative analysis is most appropriate to establish the relationships. This approach thus follows the quantitative approach taken in some of the board process research (e.g., Gabrielsson & Winlund, 2000; Minichilli et al., 2009; Wan & Ong, 2005; Zona & Zattoni, 2007). To ensure maximisation of validity and reliability, this study conducted a thorough literature review in all perspectives pertinent to corporate governance, and specifically board processes, board roles and board effectiveness. The following sections will discuss these issues.

Survey Research

Survey research is the prime vehicle of this research. The principal advantages of survey research are: it can collect a great deal of data about an individual respondent at one time at low cost; and the survey research method is versatile enough to be used in virtually any setting (Bennett in Smith & Dainty, 1991; Jobber in Smith & Dainty, 1991).

Jobber (in Smith & Dainty, 1991) emphasises that survey research is characterised by a structured or systematic set of data. Information is gathered about the same variables or characteristics from at least two (normally far more) cases and ends up with a data matrix. There are three major methods to elicit information from respondents: the personal interview, the mail questionnaire, and the telephone survey. A survey research should possess the following characteristics (Jobber in Smith & Dainty, 1991):

- Survey research is a quantitative method, requiring standardised information from and/or about the subjects being studied.

- The main data collection method is by asking people structured and predefined questions. Their answers, which might refer to themselves or to some other unit of analysis, constitute the data to be analysed.

- Information is generally collected about a fraction of the studied population, but it is collected in such a way as to be able to generalise the findings to the population. The sample should be large enough to allow extensive statistical analysis.

Oppenheim (2000) distinguishes two types of survey research: descriptive survey and analytical survey.

- Descriptive survey is aimed largely at fact-finding in nature, or making predictions. Its purpose is to count, and chiefly tell us how many (what proportion of) members of a population have a certain opinion or characteristics or how often certain events occur together. They are not designed to explain anything or to show causal relationships between one variable and another.

- Analytical survey is aimed at exploring causal relationships between variables, and often undertaken to test specific propositions or hypotheses. It answers the question of 'why' rather than 'how many' or 'how often'.

Based on the above literature of survey research, this study uses analytical survey as the dominant component, because the objectives of this research are to identify the relationship between firm (or board) governance orientation, board governance processes, board role performance and board effectiveness. Hypotheses of relationships between these variables are formulated through literature review and will be analysed using quantitative data collected via survey research. The sampling methods, measurement and scales, validity and reliability of research design and data collection methods for the survey research will be further discussed in the following sections.

Sampling Methods

Sampling allows researchers to draw conclusions about the population by selecting units that are representative of the population (Maylor & Blackmon, 2005). There are two principal types of sampling: probability and non-probability sampling (Blumberg et al, 2008; Maylor & Blackmon, 2005).

There are several types of random sampling, such as simple random sampling, stratified random sampling, cluster sampling, and stage sampling (Blumberg et al., 2008; Brymon and Bell, 2007)).

- Simple random sampling involves taking a random sample directly from the population. However, it is limited by the availability of a complete list of the population, one that could be very large and not feasible or even possible to obtain.

- Stratified random sampling consists of taking random samples from various strata, which are different sub-populations within a larger population. By defining strata, the researcher can identify more relevant ones that are worth investigating.

- Cluster sampling randomly selects clusters of subjects, thus avoids the difficulty of sampling from a large population.

- Stage sampling is an extension of cluster sampling and involves successive random selections from each previously selected cluster.

Non-random sampling provides less justifiably representative samples, but is used for the sake of cost efficiency and convenience. Typical techniques that have been applied in previous research are: purposive sampling, quota sampling, convenience, accidental or volunteer sampling, and snowball sampling (Blumberg et al., 2008; Bryman & Bell, 2007).

- Purposive sampling is achieved by the researcher through hand-picking subjects on the basis of traits to give what is felt or believed to be a representative sample. This requires all the relevant variables or traits to be identified so the sample would include a cross-section of persons possessing these.

- Quota sampling involves the researcher non-randomly selects subjects from identified strata until desired numbers are reached. Such an approach ensures that each group is of the same size, which can be important for some inferential statistical tests. The disadvantage is that the numbers may not reflect the true proportions of sub-populations in the whole population.

- Snowball sampling involves the researcher identifies a small number of subjects with the required characteristics, who in turn identify others etc. This is of value when a researcher has little idea of the size or extent of a population, or there simply may be no records of population size. The disadvantage is that it is difficult to defend the representativeness of the sample.

Indeed, there is widespread recognition among organisational researchers that investigations using sample survey are rarely based on probability samples. Instead, convenience samples tend to prevail. Bryman & Bell (2007) offer an explanation as to why non-probability sampling is widespread:

- Practical reasons such as increased difficulty in gaining access to firms for survey research.

- Strategic reasons, in other words a non-random sampling may be deemed better than a random one, or a random sample may not be a feasible plan of action. Random sampling is unlikely to be feasible in the event that there is no frame or when the frame would be absurdly expensive or even impossible construct.

Sampling Error

Sampling errors result from actually taking the sample in a less random manner (Maylor & Blackmon, 2005). Non-sampling errors occur being unrelated to the method of sampling, i.e. the sample may be random and representative, but the resulting data may not be complete or accurate. The sources of errors may come from the following (Maylor & Blackmon, 2005):-

- Missing data may be due to the inability to contact a selected subject or not all the selected subjects choosing to participate, resulting in volunteers.

- Response errors will arise from subjects providing inaccurate information, or the questions may be misunderstood.

- Processing errors can arise from coding data or entering it into computer files.

- Errors from methods of data collection include such problems as timing of a survey, wording of questions and mediums used.

Sampling Frame

The population was drawn from the Hemscott Company Guru database available through the University of Wolverhampton. Hemscott is a financial database containing information on 300,000 British companies. Private company data is supplied by Dun and Bradstreet Inc. Up to five years of financial information, share price data, a variety of descriptive details and board of directors information are provided in the database. It allows researchers to search for companies by their name, by sector, or by various other criteria. In addition, Hemscott has a director search criteria, which allows researchers to search by director name, position, nationality, position, remuneration, director shareholdings and other relevant criteria useful to board researchers. Hemscott uses three categories of company type: UK Listed, UK Private, and UK Listed/Private.

The Hemscott database contains information on the board of directors of listed and private companies. This facilitates the search for respondents, in this case chairpersons of boards to whom the survey was targeted. In addition, it allowed for the collection of firm performance data. From Hemscott, all the listed companies on the database in November/December 2009 were selected for the sampling frame. This constituted a total of 1665 companies.

Measurement and Scales

Survey instrument development is an important phase of this research, as it is the main process through which the validity and reliability of the measurements, as discussed previously in this chapter, is achieved. Measurement is one of the most fundamental elements in research. It is a problem shared by researchers in all disciplines where an attempt is made to quantify observations (Blumberg et al., 2008; Bryman & Bell, 2007; Maylor & Blackmon, 2005). According to Blumberg et al., (2008) in measuring, first a mapping rule is devised, then the observation of property indicants is translated using this rule.

The rules that we use to assign numbers to observations result in various levels of measurement. Several types of data are possibly dependent on the assumptions about the mapping rules. In addition, each data type has its own set of underlying assumptions about how numerical symbols correspond to real world observations (Blumberg et al., 2008). There are four levels of measurement with different properties involved, namely nominal, ordinal, interval and ratio scales (Blumberg et al., 2008).

- A nominal scale is one in which numbers are assigned to individuals or phenomena. Their purpose is merely to give a label to a class or category. Nominal characteristics do not show any order of distinctions. Using nominal data, very little statistical analysis can be carried out. Only percentages, frequencies, and the mode can be calculated, and limited statistical techniques such as Chi-square can be used to determine significant differences between categories.

- Ordinal level data are numbers that are assigned to data on the basis of some order, i.e. the data is in an order that ranges from the bottom to the top. However, it is not possible to quantify precisely how much difference there is between the categories.

- Interval level data represent numbers used to rank items such that numerically equal distance on the scale represents equal distance in the property being measured. This is, in addition to classification and order, we have equal units of measurement. There are precisely defined intervals between and among observations. What is lacking with an interval scale is a stable starting point (an absolute zero), and consequently, the scales cannot be interpreted in any absolute sense. However, we can perform a large number of mathematical operations with interval data, which are not possible with nominal and ordinal data.

- A ratio scale is a type of scale that uses numbers that rank items in order that the intervals are equal in measurement and have an absolute zero point. With ratio data, all descriptive as well as inferential statistics are applicable.

Table 5-3 provides a summary of characteristics of all the measurement scales from Blumberg et al., (2008). In social science research, many attitude scales are presumed to be interval (Blumber et al., 2008, Bryman & Bell, 2007). For example, the Likert scale that requires respondents to state their degree of agreement or disagreement to a given statement. Blumber et al., (2008) emphasise that it is obvious that the interval between each of these degrees of agreement or disagreement is not exactly equal, but more researchers treat these data as if the intervals are equal. This is because the result of most statistical techniques is not seriously affected by this minor non-compliance to the interval scale requirements.

Table 5-3. Types of data and their measurement characteristics

Type of data	Characteristics of data	Basic empirical operation	Example
Nominal	Classification but no order, distance or origin	Determination of equality	Gender (male, female)
Ordinal	Classification and order but no distance or unique origin	Determination of greater or lesser value	Doneness of meat (well, medium-well, medium-rare, rare)
Interval	Classification, order and distance but no unique origin	Determination of equality of intervals or differences	Temperature in degrees
Ratio	Classification, order, distance and unique origin	Determination of equality of ratios	Ages in years

Source: Blumberg et al., (2008)

In this questionnaire, most of the data were assessed by Likert scales, which are treated as an interval scale. A seven point scale was used because as Blumberg et al., (2008) point out many researchers contend that the greater the number of points on a rating scale, the greater the sensitivity of measurement and extraction of variance. The reasons for using a Likert scale are: (1) These scales have been found to communicate interval properties to the respondent, and therefore produce data that can be assumed to be intervally scaled (Bryman & Bell, 2007; Maylor & Blackmon, 2005); (2) In board literature, Likert scales are normally treated as interval scales (for example, Minichilli et al., 2009 and Zona & Zattoni, 2007). This enables the research to describe the nature of research subjects, as well as to explain the relationships between variables by employing inferential statistics. With the exception of the board governance orientation construct, efforts were made to utilise or adapt existing measurement scales. The board governance processes of cohesiveness, conflict, communications, effort norms, trust and the use of knowledge and skills utilised existing measurement scales. Similarly, the control role, service role, strategy role and board effectiveness constructs utilised existing measurement scales. In the case of board governance orientation, where there is not an appropriate existing scale, constructs are developed carefully from strong theoretical foundation. A full discussion is provided in section 5.4.

Validity and Reliability of Research Design

The quality and impact of management research depends upon the appropriateness and rigour of the research methods chosen. Issues on design choices such as instrumentation, data analysis, and construct validation, etc. affect research findings and conclusions. This leads to the continuous focus on reliability and validity of research methods. Many authors have addressed the issues from different aspects, resulting in a wide range of labels that are used to describe reliability and validity of measures in the methodological literature (Blumberg et al., 2008; Yin, 2009). The following section identifies the methods undertaken within this research to ensure validity and reliability.

Validity

Validity refers to the extent to which a test measures what is wanted to be measured. It is generally agreed that no one research strategy can adequately cover all aspects of validity. Researchers need to adopt different strategies to maximize different kinds of validity. Triangulation is suggested as an effective strategy to achieve more valid and reliable research results. However, due to limitations of research resources, the nature of research projects, and the skills of the researcher, triangulation is not always possible. In the particular case of this research, the prime task is to identify the relationships between variables. Quantitative methods are more effective in solving the concerned issues. The aspects of validity as mentioned in section 5.2 above are dealt with care.

The content validity is optimised though extensive literature review. The operationalisation of each measurement is checked against the relevant content domain for the construct. Efforts have been made to use the measures that have been previously tested. In some instances, modifications were made and new measures were created. These will be listed in the following sections. New items used in the survey questionnaire and hypotheses development followed from a critical review of theories and previous research findings.

External validity of this research is achieved through adopting a quantitative research strategy, followed by critical review of all relevant research fields in terms of identifying theoretical foundations and cross-comparison with previous research findings. Survey research is adopted and aims to achieve a generalisable findings. Details of questionnaire administration are reported in the later section of this chapter.

Reliability

Reliability demonstrates that the operations of a study can be repeated with the same results. The reliability of this research is achieved through the following measures:

- Minimising the source of unreliability, multi-item indicators, and the use of questions from reputable studies.

- Minimising source of unreliability: Various researchers argue that a question may be unreliable due to bad wording: people may understand a question differently on different occasions (Blumberg et al., 2008; Yin, 2009). Another source of error is when people have no opinion or have insufficient information. In the survey, bad wording is minimised by extensive review of past literature, critical discussion with the supervisor, expert review of the questionnaire, and a pilot test by five current members of different boards of directors. Difficult questions were reworded, and ambiguous questions were amended or deleted.

- Multi-item measure: Yin (2009) argues that multi-item indicators are the best way to create reliability, as well as offering an easier method of assessing their reliabilities. Moreover, single-item measures are said to have almost certainly a strong yes-saying bias, while multi-item measures eliminate this. This study used multi-item measures for all constructs with items ranging from 4 statements to 10 statements for each construct.

- Use of questions from reputable study: Effort has been made to use the measures from previous studies, but in some instances, modifications were made and new measures were created, using the steps specified above. The source of measuring instruments is explained in the next section of this chapter. Reliability of the measurement instruments was checked and achieved by using Cronbach's alpha coefficient.

- Cronbach's Alpha test of reliability: This is a model of internal consistency, based on the average inter-item correlation. Cronbach's Alpha was calculated for each construct in the study and the results are reported in the following chapter.

The importance of validity and reliability of research in generalising research findings is discussed above. Black (1993, p55) notes "without generalizability of results, social science research in general will tend to limp along, not benefiting from the efforts of others, collecting results on a piecemeal basis." The more generalisable the results, the greater the possibility that one can begin to resolve conflicting hypotheses. By following the identified methods, this research is aimed to achieve optimised validity and reliability.

Questionnaire Design

Questionnaire design is a very important part of this research. As previously mentioned, measurements are carefully selected from existing research when available. In cases when existing measurement scales are not available, questions were drawn from strong theoretical background. The questionnaire uses a 7-point Likert scale, usually ranging from 1=strongly disagree, 2=disagree, 3=slightly disagree, 4=neither disagree or agree, 5=slightly agree, 6=agree, 7=strongly agree.

Format of Questionnaire

The format of the questionnaire is a most important criterion that determines response rate (Blumberg et al., 2008; Bryman & Bell, 2007). The appearance of the questionnaire and how the questions are structured within it can influence a respondent's co-operation, as well as the quality of data collected (Blumberg et al., 2008; Bryman & Bell, 2007, Maylor & Blackmon, 2005). Blumberg et al., (2008) specify that in a mail survey, both the layout and appearance of the questionnaire are crucial, because they are the only elements that will entice respondents to cooperate.

Although the questionnaire used in this study appears lengthy (7 pages), certain measures were incorporated to ensure a reasonably good response rate. For example, much effort was devoted to ensure that the layout was pleasing to the eyes of the respondents. A self-addressed pre-paid envelope was included to encourage responses. A front sheet was provided in addition to a cover letter, explaining the importance of the research, identifying the time it would reasonably be expected to take to complete the questionnaire, and allowing the respondents to indicate whether they wished to be provided with an executive summary of the results of the study. Questions were deliberately grouped into sections and sub-sections using sub-numbering systems to enhance the format of the questionnaire. Instead of ending up with over hundred of individual questions, questions were grouped into sections.

It is often thought that a lengthy questionnaire will not attract the respondent to co-operate. However if the sample is made up of people with a special interest in the subject or with a high standard of literacy, they will not be deterred by lengthy questionnaires (Blumberg et al., 2005; Bryman & Bell, 2007). It is, however, largely recognised in board research that response rates are relatively low (Dalton et al., 2003; Dailly et al., 2003; Pettigrew, 1992).

Pilot Test

A pilot test of the survey was conducted in October 2009. Five existing company directors known to the author and the supervisory team completed the draft questionnaire and as a result of their comments difficult questions were reworded, and ambiguous questions were amended or deleted.

The Survey

Between December 2009 and April 2010, the pretested questionnaire and a cover letter introducing the study (see Appendix), its potential value and the importance of the company's participation were mailed to the chair of the board of directors of each of the 1665 companies. Whilst a number of board studies use CEOs as the key respondent (e.g. Minichilli et al., 2009), this study uses board chairs. This was done as it was believed board chairs would be more independent and less biased in their answers than CEOs. Each participant was assured about the confidential nature of the responses. They also had the option of receiving an executive summary of the outcome from the research by placing a tick on the front page of the questionnaire. Six weeks following the mailing, reminder emails were sent out. Following on from email replies, replacement copies of the questionnaire were sent out to 20 companies. The initial mail out led to 72 replies and the reminder email elicited just 2 further responses. A number of apologies were received from companies who would not be able to complete the questionnaire, as well as a number of returned mails due to wrong addresses, departure from addresses, or companies that had gone into liquidation. Figures are shown in the Tables 5-4. and 5-5. below.

Table 5-4. The Response Rate of Apologies and Undelivered Mail

	Number	**Percentage***
Apologies	53	3.18%
Returned Mails Undelivered	71	4.26%
Total	124	7.44%

*Percentage is based on a total of 1665 companies

Table 5-5. The Survey Response Rate

	Number of Responses	**Percentage***
Mailing	72	4.32%
E-mail follow up	2	0.12%
Total Response	74	4.44% (adjusted 4.64%)

A low response rate is not uncommon in board research, although in comparative terms this is a very low response rate. As Dailly et al., (2003) contended, data on boards have been extraordinarily difficult to obtain and hence why most of the traditional board research used archival data gathering techniques. Whilst a number of board process researchers have seen much better response rates (between 10 and 20%) in similar surveys in recent years, these have been conducted in continental Europe and countries in the Far East (Minichilli et al., 2009; Wan and Ong, 2005; Zona & Zattoni, 2009). A number of factors may help to explain the very low response rate. There were two reasons identified by those apologising for their failure to complete the questionnaire: (a) it is company policy not to fill in questionnaires, and (b) we are very busy preparing for the end of the financial year and do not have time to complete your questionnaire. There is also anecdotal evidence that an increasing number of larger companies in the UK are refusing to participate in survey research. An experienced UK Professor undertaking board research made it known that she was finding it difficult to undertake interviews with company board members that have previously been very willing to participate.

Characteristics of the Sample

Characteristics of the sample are presented in Tables 5-6. and 5-7.

Table 5-6. Sample Characteristics of Business Sector

Type of Business	Number of Responding Companies	Response Sample (%) (n = 74)	Original Sample (%) (n = 1665)
Oil & Gas	4	5.41%	7.28%
Basic Materials	7	9.46%	9.76%
Industrials	21	28.38%	24.55%
Consumer Goods	6	8.11%	7.35%
Health Care	3	4.05%	4.80%
Consumer Services	9	12.16%	11.29%
Telecommunications	0	0.00%	1.20%
Utilities	1	1.35%	1.38%
Financials	14	18.92%	21.02%
Technology	9	12.16%	11.37%
Total	74	100%	100%

Table 5-7. Sample Characteristics of Business Size

Number of Employees	Number of Responding Companies	Response Sample (%) (n= 72)*	Original Sample (%) (n = 1550)^
0-99	18	25%	28.97%
100-249	10	13.89%	12.32%
250-499	6	8.33%	9.61%
500-999	7	9.72%	8.32%
1000+	31	43.06%	40.78%
Total	72*	100%	100%

*There was only information on the number of employees for 72 out of the 74 respondents

^There was only information on the number of employees for 1550 out of 1665 companies

Non-Response Bias

To check for non-response bias resulting from the sampling procedure, checks for differences in the business sector and business size (in terms of the number of employees), produced no significant differences between respondents and non-respondents (see Tables 5.6 and 5.7)

Common Methods Bias

Common method bias occurs where the variance attributable to the measurement method is one of the primary sources of measurement error (Podsakoff et al., 2003). The dependent variable in the model is board effectiveness and since this is a self-reported measure checks for common methods bias are required. In this research, the Chairmen respondents on board effectiveness were self-reporting all variables within the model, including the dependent variable board effectiveness.

Common method bias could therefore derive from single-rater effects and/or item characteristic effects.

In order to deal with common method bias (Doty & Glick, 1998), a number of procedural remedies in the instrument development and data collection phase were applied (Podsakoff et al., 2003). First, we protected the respondents' anonymity by assuring confidentiality of their responses in the cover letter that accompanied the survey. Second, considerable time and effort were invested in improving the scale items and reducing item ambiguity. All survey questions were short, specific and used simple words to avoid ambiguous and vague formulations. To enhance the construct validity of the survey measures, a pilot survey was undertaken to assist in the fine-tuning of the questionnaire and in identifying potentially misleading items (Carpenter & Westphal, 2001).

To check for common methods bias, one statistical remedy was employed. Data on companies' return on capital employed (ROCE) were collected and compared to the board effectiveness results. Regression analysis was employed to test the hypothesis that board effectiveness is directly related to the firm's financial performance, using ROCE as a measure of financial performance.

Table 5-8. Regression Analysis of the Relationship between Board Effectiveness and ROCE

	ROCE
Board Effectiveness	0.247*
Adjusted R^2	0.046
F change	4.017

The regression analysis results in Table 5-8, show that the hypothesis that board effectiveness is directly related to ROCE is accepted at the 5% level (ß = 0.247). Thus, from this sample of companies it can be inferred that common methods bias is not a problem.

5.4. Reliability and Validity of the Measurement Model

As discussed previously in this chapter, the objectives of this research are to identify the relationships between board governance orientation, board governance processes, board role performance, and board effectiveness and to analyse the predicted hypotheses developed from existing literature. This section will report on the analysis undertaken to ensure the validity and reliability of the measurement model developed in Chapter 4: Measurement Model and Hypothesis Development. Two of these constructs, board governance orientation and board effectiveness are new and thus the questionnaire survey questions used to measure these constructs were developed from existing literature. The Cronbach Alpha test was used to examine the construct reliability and factor analysis was undertaken to examine the extent to which the observed variables are linked to their underlying factors. Factor analysis is a multivariate statistical method whose primary aim is is to simplify complex sets of data (Hair et al., 1987). It is used to identify a relatively small number of factors that could represent themes within a number of interrelated variables. Hair et al., (1987: 235) identifies four functions factor analysis techniques can perform:

- Identify a set of latent dimensions in a large set of variables.
- Devise a method of combining or condensing large numbers of variables into distinctly different groups within a larger population.
- Identify appropriate variables for a subsequent regression, correlation or discriminant analysis from a larger set of variables
- Create an entirely new set of smaller variables to partially or completely replace the original set of variables for inclusion in subsequent regression, correlation or discriminant analysis.

In Chapter 4 Model and Hypotheses, it was reported that board roles have been ambiguously defined and measured in prior empirical research. Thus, the data obtained through the questionnaire were subject to exploratory factor analysis in order to discover the underlying dimensions of board role performance.

Board Governance Orientation

Chapter 2 Literature Review reports that there are four principal theories employed in corporate governance to explain board structural characteristics: agency theory, resource dependency theory, stakeholder theory, and stewardship theory. These theories offer alternative prescriptions for board structures and thus drawing on these theory it is hypothesised in Chapter 4 Model and Hypotheses, that firms will have a different orientation towards corporate governance. The hypothesised board governance orientations are thus agency, resource dependency, stakeholder, and stewardship. The scales were developed from statements derived from the extant literature review. The next section reports on the theoretical derivation of these statements and the reliability analysis of the constructs. Prior to undertaking the reliability analysis of the constructs, a factor analysis was completed to examine the interrelationships between the variables.

Agency Governance Orientation

This was initially developed as a five-item measure drawn from theoretical statements by Alchian & Demsetz (1972), Eisenhardt (1989), Fama & Jensen (1983), Grossman and Hart (1986), Jensen & Meckling (1976) and Jensen and Murphy (1990). The items are presented in Table 5-9.

Table 5-9. Agency Orientation Items

1	Our board feels a moral responsibility to look after the interests of the shareholders.
2	Board members look after their own interests.
3	Board members closely monitor and control the actions of management.
4	Board executives are aligned to shareholder interests through compensation packages.
5	Contractual arrangements specify how the returns on investment are divided between executives and shareholders.

Table 5-10. shows that the Cronbach Alpha for the five items was 0.359, below the generally accepted 0.7 and thus not reliable. Dropping item 2 shown in Table 5-10. improved the Cronbach Alpha score to 0.5 but still below the threshold for acceptability. The result suggests the Agency Governance Orientation was not a reliable construct.

Table 5-10. Reliability Analysis for Agency Orientation

Reliability Statistics	
Cronbach's Alpha	N of Items
0.359	5

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Agency 1	18.14	14.443	0.267	0.309
Agency 2	22.44	13.671	-0.039	0.500
Agency 3	18.87	12.461	0.298	0.241
Agency 4	19.09	11.007	0.349	0.173
Agency 5	20.66	8.316	0.225	0.281

Resource Dependency Orientation

This was initially developed as a seven-item measure drawn from theoretical statements by Burt (1980), Carpenter & Westphal(2001), Daily & Schwenk (1996), Hillman & Dalziel (2003), Gales & Kesner (1994), Hillman et al., (2000), Mizruchi (1996), Pfeffer (1972), Pfeffer & Salancik (1978), and Wernerfelt (1984). The items from the questionnaire are presented in Table 5-11. below.

Table 5-11. Resource Dependency Items

16	Board members bring a variety of expertise and skills to the board and the company.
17	Board members' skills and expertise help the company manage external links.
18	Board member skills and expertise help the company reduce its environmental uncertainty.
19	Board members provide advice and counsel to management.
20	Board members provide channels of communication between external organisations and the company.
21	Board members provide assistance in obtaining knowledge and information from outside the company.
22	Board members help to increase the company's legitimacy in the market place.

Table 5.12. Reliability Analysis for Resource Dependency Orientation

Reliability Statistics	
Cronbach's Alpha	N of Items
0.797	7

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Resource Dependency 1	34.37	18.933	0.517	0.627	0.775
Resource Dependency 2	34.64	16.871	0.653	0.644	0.748
Resource Dependency 3	35.99	15.956	0.408	0.190	0.821
Resource Dependency 4	34.41	19.464	0.566	0.443	0.774
Resource Dependency 5	35.19	17.226	0.579	0.596	0.761
Resource Dependency 6	35.01	17.637	0.627	0.544	0.755
Resource Dependency 7	35.10	17.338	0.551	0.352	0.766

Table 5-12. shows that the Cronbach Alpha for the seven items was 0.797 and thus the Resource Dependency Orientation construct can be accepted as reliable. The score increases to 0.821 when item 18 shown in table 5-11. above is dropped, and thus the Resource Dependency Orientation would appear to be a reliable construct.

Stakeholder Orientation

This was initially developed as a six-item measure drawn from theoretical statements by Agle et al., (1999), Freeman & Evan (1990), Mitchell et al., (1997), Jawahar & McLaughlin (2001), Rowley (1997), and Trevino & Weaver (1999). The items are presented in Table 5-13. overleaf.

Table 5-13. Stakeholder Items

10	Our board views the company more broadly than one simply owned by the shareholders.
11	Our board pays serious attention to employee interests, even if they happen at times to conflict with narrow shareholder profit interests.
12	Our board pays serious attention to customer interests, even if they happen at times to conflict with narrow shareholder profit interests.
13	Our board feels that they (and the company) must act as custodians of local interests, and not just purely look after shareholder profits.
14	Our board pays serious attention to suppliers' interests, even if they happen at times to conflict with narrow shareholder profit interests.
15	Our board pays serious attention to the company's corporate social responsibility, even if they happen at times to conflict with shareholder profit interests.

Table 5-14. shows that the Cronbach Alpha for the six items was 0.792 and thus the Stakeholder Orientation construct can be accepted as reliable.

Table 5-14. Reliability Analysis for Stakeholder Orientation

Reliability Statistics	
Cronbach's Alpha	N of Items
0.792	6

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Stakeholder 1	24.68	24.936	0.515	0.767
Stakeholder 2	24.80	24.446	0.675	0.736
Stakeholder 3	24.62	27.096	0.398	0.790
Stakeholder4	25.77	20.777	0.687	0.721
Stakeholder 5	26.08	24.678	0.477	0.776
Stakeholder 6	25.10	22.890	0.547	0.761

Stewardship Orientation

This was initially developed as a four-item measure drawn from theoretical statements by Davis et al., (1997) and Donaldson & Davis (1991). The items are presented in Table 5-15. below.

Table 5-15. Stewardship Items

6	Board members allow management a large degree of autonomy to run the company.
7	Our board is confident that management look after the company's interests.
8	Our board's control of senior management is seen as counter-productive as it lowers management motivation.
9	Executive board members are highly knowledgeable about the company.

The Cronbach Alpha for the four items was originally -0.044 as shown in Table 5-16. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. Due to this result, item 3 was reverse scored leaving the revised Cronbach Alpha, shown in Table 5-17. as 0.484, still below the accepted value of 0.7. Deleting item 3 raised the Cronbach Alpha score to 0.528, but still not meeting the acceptable threshold for reliability.

Table 5-16. Reliability Analysis for Stewardship Orientation

Reliability Statistics	
Cronbach's Alpha	N of Items
-0.044	4

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Stewardship 1	15.25	3.105	0.084	0.122	-.265[a]
Stewardship 2	14.42	4.248	0.106	0.367	-.173[a]
Stewardship 3	18.08	4.021	-0.242	0.117	0.528
Stewardship 4	14.05	4.108	0.203	0.234	-.263[a]

Table 5-17. Reliability Analysis for Stewardship Orientation

Reliability Statistics	
Cronbach's Alpha	N of Items
0.484	4

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Stewardship 1	18.21	5.138	0.263	0.434
Stewardship 2	17.38	5.823	0.542	0.280
Stewardship 4	17.01	6.847	0.282	0.442
Stewardship 3	18.08	4.021	0.242	0.528

Self-Typing Results for Board Governance Orientation

As the board orientation construct was new, a self-typing question was included in the questionnaire that would help to validate the multi-item constructs for the board governance orientations. The questions asked the respondents to identify the (one) orientation that most closely resembled their board. identify the board's orientation. The statements for each orientation are in Table 5-18.

Table 5-18. Governance Orientation Statements

Orientation 1	Our board is primarily concerned with controlling, monitoring, reviewing senior management team objectives and performance in order to protect shareholder interest.
Orientation 2	Our board has a high level of trust in senior management, and is primarily concerned with supporting and empowering senior management, which acts in the best interest of its company and its' shareholders.
Orientation 3	Our board represents differing stakeholder groups and is primarily concerned with balancing the interests of these groups, and is achieving that through controlling, monitoring, reviewing senior management team objectives and performance.
Orientation 4	Our board is primarily concerned with providing a variety of resources (relevant skills & knowledge, information, advice & counsel) to help the senior management meet team objectives and performance in order to create shareholder value.

The results from the self-typing showed 25.7% identifying orientation 1 (agency), 40.0%% orientation 2 (stewardship), 12.9% orientation 3 (stakeholder), and 20.3% orientation 4 (resource dependency). These self-typing results did not respond/correlate with the results from the multi-item measures.

Summary of Board Governance Orientation Results

The self-typing results show some support for boards having different governance orientations. However, whilst the results from the Cronbach Alpha tests clearly show that the Resource Dependency Orientation and Stakeholder Orientation are reliable constructs, the Agency Orientation and the Stewardship Orientation are not reliable constructs. Given these results, it is impossible to test the hypotheses relating to board governance orientation and thus these are dropped at this stage. This will be discussed further in Chapter 7, Discussion.

Board Governance Processes

The board governance processes identified from Chapters 2 and 3 Literature Review and hypothesised in Chapter 4 The Model and Hypotheses are cohesiveness, communication quality, cognitive conflict, affective conflict, effort norms, trust, and the use of knowledge and skills. Each of these processes used existing constructs and thus were examined using Cronbach Alpha's test of reliability.

Cohesiveness

This was developed as a four-item measure based on O'Reilly et al., (1989). The items are shown in Table 5-19.

Table 5-19. Cohesiveness Items

1	Board members are ready to defend each other from criticism by outsiders.
2	Board members are very willing to help each other with the job.
3	Board members get along with each other.
4	Board members always stick together.

Table 5-20. Reliability Analysis for Cohesiveness

Reliability Statistics	
Cronbach's Alpha	N of Items
0.704	4

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Cohesiveness 1	15.93	6.488	0.545	0.605
Cohesiveness 2	14.88	8.815	0.438	0.680
Cohesiveness 3	15.18	7.671	0.563	0.609
Cohesiveness 4	17.14	5.952	0.490	0.663

Table 5-20. shows that the Cronbach Alpha was 0.704 (>0.7) and thus cohesiveness is deemed to be a reliable construct.

Communication Quality

This was developed as an eight-item measure based on Massey & Dawes (2007a). The items are shown in Table 5-21.

Table 5-21. Communication Quality Items

33	The information provided by senior management is very useful for board meetings
34	Board members are satisfied with the information provided for board meetings.
35	The information provided is highly relevant to the required decisions.
36	The information provided for board meetings is highly credible.
37	The form and presentation of the information provided is very satisfactory.
38	The board chairperson always responds to his/her communication outside board meetings.
39	The board chairperson provides the board with feedback.
40	There is two-way communication between the board and the management.

Table 5-22 shows that the Cronbach Alpha was 0.907, indicating a high degree of reliability for the communication quality construct. Whilst dropping item 38 in Table 5-21 increases the Cronbach Alpha score to 0.913 this improvement is not seen as significant, especially given the high reliability shown by retaining all eight items.

Table 5-22. Reliability Analysis for Communication Quality

Reliability Statistics	
Cronbach's Alpha	N of Items
0.907	8

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Communication Quality 1	42.78	21.229	0.760	0.891
Communication Quality 2	43.03	19.888	0.771	0.889
Communication Quality 3	42.88	20.332	0.780	0.888
Communication Quality 4	42.86	20.148	0.820	0.885
Communication Quality 5	43.27	19.813	0.713	0.895
Communication Quality 6	42.78	22.007	0.507	0.913
Communication Quality 7	42.75	21.855	0.648	0.900
Communication Quality 8	42.74	21.862	0.663	0.899

Cognitive Conflict

This was developed as an eight-item measure utilising five items from Wang and Ong's (2005) cognitive conflict measure and three items from Massey & Dawes's (2007a) functional conflict measure. The items are shown in Table 5-23.

Table 5-23. Cognitive Conflict Items

5	Our board considers the different viewpoints of its members.
6	Board decisions are settled amicably.
7	Board decisions are open and candid.
8	The atmosphere on the board encourages critical thinking.
9	Board meetings often result in a clear decision.
10	There is constructive challenge of ideas, beliefs and assumptions on the board.
11	Board members who disagree respect each other's viewpoints
12	Different opinions or views on the board focus on issues rather than individuals.

Table 5-24. Reliability Analysis for Cognitive Conflict

Reliability Statistics	
Cronbach's Alpha	N of Items
0.899	8

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Cognitive Conflict 1	44.07	17.537	0.771	0.878
Cognitive Conflict 2	44.34	19.839	0.310	0.923
Cognitive Conflict 3	43.96	16.401	0.868	0.867
Cognitive Conflict 4	44.07	17.926	0.799	0.877
Cognitive Conflict 5	44.04	19.068	0.627	0.891
Cognitive Conflict 6	44.07	18.120	0.713	0.883
Cognitive Conflict 7	44.21	16.638	0.845	0.870
Cognitive Conflict 8	44.22	18.062	0.632	0.891

Table 5-24 shows that the Cronbach Alpha for the eight-items was 0.899, indicating a high degree of reliability for the cognitive conflict construct. Similarly to the communication quality construct the Cronbach Alpha score could be increased by omitting one item, specifically item 6 in Table 5.23 above. However, given the already highly reliable eight-item construct it was decided to retain all eight items.

Affective Conflict

This was developed as a six-item measure using 5 items from Wang and Ong's (2005) affective conflict measure and one item from Massey & Dawes's (2007a) dysfunctional conflict measure. The items are reported in Table 5-25.

Table 5-25. Affective Conflict Items

13	There are personality clashes on the board during decision making.
14	Board members do not get along very well.
15	Board members are not ready to co-operate.
16	At least one board member is unhappy with a decision.
17	If one board member wins, another loses.
18	When in board meetings, tensions frequently run high

Table 5-26. Reliability Analysis for Affective Conflict

Reliability Statistics	
Cronbach's Alpha	N of Items
0.832	6

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Affective Conflict 1	10.24	23.648	0.568	0.816
Affective Conflict 2	11.11	25.565	0.677	0.795
Affective Conflict 3	11.15	24.469	0.707	0.786
Affective Conflict 4	10.56	23.997	0.634	0.799
Affective Conflict 5	10.99	23.873	0.591	0.809
Affective Conflict 6	11.10	27.047	0.495	0.826

Table 5-26 shows the Cronbach Alpha for the six items was 0.832, indicating that the Affective Conflict construct is reliable.

Effort Norms

This was developed as a four-item measure following the suggestions of Forbes & Milliken's (1999) conceptual paper on board of directors. The items used are reported in Table 5-27.

Table 5-27. Effort Norms Items

19	Board members carefully scrutinise the information provided prior to board meetings.
20	Board members research issues relevant to the company before attending board meetings.
21	Board members take notes during meetings.
22	Board members participate actively during meetings.

Table 5-28 shows that the Cronbach Alpha for the four items was 0.703 (>0.7), which just meets the normal criteria for acceptable reliability. Omitting item 21 from Table 5-27, increases the Cronbach Alpha measure of reliability to 0.792 making the three-item measure of effort norms a significantly more reliable construct. Thus, item 21 was omitted from the effort norms construct leaving items 19, 20 and 22 shown in Table 5-27.

Table 5-28. Reliability Analysis for Effort Norms

Reliability Statistics	
Cronbach's Alpha	N of Items
0.703	4

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Effort Norms 1	17.09	6.744	0.614	0.567
Effort Norms 2	17.47	5.814	0.698	0.495
Effort Norms 3	17.76	6.296	0.340	0.792
Effort Norms 4	16.55	9.018	0.481	0.682

The Use of Knowledge and Skills

This was developed as a four-item measure following the suggestions of Forbes & Milliken (1999) and one item from Zona & Zattoni (2007). The items used are reported in Table 5-29.

Table 5-29. The Use of Knowledge and Skills Items

23	People on this board are aware of each others' areas of expertise.
24	When an issue is discussed, the most knowledgeable people generally have the most influence.
25	Task delegation on this board represents a good match between knowledge and responsibilities.
26	Our board makes best use of board members' knowledge and skills

Table 5-30 shows that the Cronbach Alpha for the four-items was 0.803, indicating that the Use of Knowledge and Skills construct is a reliable measure. Whilst dropping item 34 shown in Table 5.29 increases the Cronbach Alpha score to 0.847 this improvement is not seen as significant given that the measure would be based on three items.

Table 5-30. Reliability Analysis for The Use of Knowledge and Skills

Reliability Statistics	
Cronbach's Alpha	N of Items
0.803	4

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Use of Knowledge 1	17.57	6.413	0.726	0.745
Use of Knowledge 2	18.39	5.502	0.458	0.847
Use of Knowledge 3	18.19	4.566	0.722	0.700
Use of Knowledge 4	17.93	5.324	0.702	0.714

Trust

This was developed as a six-item measure using four items from Huff and Kelley (2003) and two items from Gillespie (2003). The items used are reported in Table 5-31.

Table 5-31. Trust Items

27	There is a very high level of trust throughout the board.
28	In this board, executives have a great deal of trust in non-executives.
29	If a board member makes a promise, the board will always trust that the person will do his or her best to keep the promise.
30	Non-executive board members trust that the senior managers will make good decisions.
31	Board members rely on others' task related skills and abilities.
32	Board members rely on others' work-related judgements.

Table 5-32. Reliability Analysis for Trust

Reliability Statistics	
Cronbach's Alpha	N of Items
0.888	6

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Trust 1	29.10	17.920	0.751	0.861
Trust 2	29.47	16.985	0.742	0.864
Trust 3	29.18	18.713	0.626	0.882
Trust 4	29.38	18.886	0.729	0.865
Trust 5	29.49	19.014	0.720	0.867
Trust 6	29.50	19.746	0.688	0.872

Table 5-32 shows that the Cronbach Alpha for the six-items was 0.888, indicating that the Trust construct is valid.

Summary of Reliability Analysis of Board Roles

Reliability analysis using Cronbach Alpha as the measure shows that all seven board processes, identified from board and small teams literature, are reliable. From the original items for each variable only one item was required to be dropped and that was for the Effort Norms construct. Given that the items were primarily developed from existing validated constructs this result was expected. The final variables, cohesiveness, communication quality, cognitive conflict, affective conflict, effort norms, trust, and the use of knowledge and skills were completed by the means of the items.

Board Role Performance

Through the review of the board literature, it is generally accepted that the board of directors undertake three distinct roles: control, service and strategy. However, as reported in Chapter 4 Model and Hypotheses Development, empirical testing of the roles is problematic. Whilst there is a clearly accepted definition of the control role, this is not the case for the service and strategy roles. Thus, in order to check for validity and reliability of the constructs, exploratory factor analysis was undertaken as a first step in order to discover the underlying dimensions of board role performance. This was followed by a reliability analysis of the factors identified from the analysis.

Control, Service and Strategy Roles

To measure the three board roles, items from previous research were used. The original ten-item control role measure was developed using the original items from Wan & Ong (2005). The original nine-item service role measure was developed using the original items from Huse (2007). The original four-item strategy role measure was developed using the items from Huse (2007). However, given the concerns raised in previous literature, as reported in Chapter 4 Model and Hypotheses Development, with regard to the ambiguity in the boundaries of strategy and service roles and the alternative terms used such as networking role, it was determined a factor analysis was necessary to analyse the interrelationships between the variables.

Factor Analysis

As shown in Table 5-33, when factor analysis was undertaken for the sample, the KMO (Kaiser-Meyer-Olkin) measure of sampling adequacy was 0.727, and the Bartlett test of sphericity was 1087.287, significant at p<0.01. The KMO measure of sampling adequacy is an index for comparing the magnitude of the observed correlation coefficients to the magnitudes of the partial correlation. If the sum of the squared partial correlation coefficients between all variables is small when compared to the sum of the squared correlation coefficients, the KMO measure is close to 1. According to Kaiser (1974), measures in the 0.80's are meritorious and measures in the 0.70's are middling. The KMO result of 0.727 is thus middling according to this classification. Burns & Burns (2008) suggest a KMO greater than 0.5 is suitable for a satisfactory factor analysis to proceed. Given the result of 0.727 (>0.5) it is acceptable to proceed with the factor analysis.

Table 5-33. KMO Test for Board Role Performance

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.727	
Bartlett's Test of Sphericity	Approx. Chi-Square	1087.287
	df	253
	Sig.	0.000

Bartlett's test of sphericity is used to test the hypothesis that the correlation matrix is an identity matrix, that is, all diagonal terms are 1 and all off-diagonal terms are 0. If the hypothesis that the population correlation matrix is an identity cannot be rejected because the significance level is large, the use of the factor model should be reconsidered (Hair et al., 1987). In this study due to significance level less than 0.01, it is safe to employ the factor model.

Factor analysis normally proceeds in four steps. First, the correlation matrix between all variables is computed. Unrelated variables can be identified from the matrix and associated statistics. Secondly, factor extraction, the number of factors necessary to represent the data and the method for extracting them, must be determined. Thirdly, factor rotation is undertaken to achieve simpler and more meaningful factor solutions. According to Hair et al., (1987), rotation of factors should improve interpretation by reducing the ambiguities that may occur in initial unrotated factor solutions. Finally, factor scores, which can be used in various analyses, need to be computed.

Burns & Burns (2008) suggest that Principal Components Analysis (PCA) is the most common method employed by researchers to extract factors. In PCA, linear combinations of the observed variables are derives such that maximum variance is extracted from the variables (Burns & Burns, 2008; Hair et al., 1987). The first principal component is the combination that accounts for the largest amount of variance in the sample. The second principal component accounts for the next largest amount of variance and is uncorrelated with the first. Successive components describe progressively smaller portions of the total sample variance, and all are uncorrelated with each other. In general, the PCA transforms a set of correlated variables to a set of uncorrelated variables (factors).

To decide how many factors are needed to represent the data, there are two primary methods. The first method uses eigenvalues. The number of factors can be chosen using their eigenvalues, choosing those factors with the largest eigenvalues. Kaiser's rule suggests that only factors having eigenvalues (latent roots) greater than 1 are considered as common factors. Components with eigenvalues greater than 1 are components that explain more variation than did an original item. The second method is to use Cattell's (1978) scree test. In the scree test, a graph is made of the eigenvalues and principal components. The cut-off point for selection of the correct number of factors is the point of inflexion where the variation accounted for by a factor may be so small that is simply due to error.

Although the factor matrix obtained in the extraction phase indicates the relationship between the factors and the individual variables, it is usually difficult to identify meaningful factors based on this matrix (Burns & Burns, 2008). As a result, rotation is used to increase interpretability by rotating factors so that there is more discrimination between high and low loading variables. The varimax method is the most commonly used method of rotation (Burns & Burns, 2008). Varimax attempts to isolate those variables that have a high loading on a single factor.

The data in Section 3 questions 1-20 from the questionnaire (See Appendix 1) were subjected to factor analysis to detect the underlying dimensions on board roles. An examination of the scree plot shown in Figure 5.1 below suggested either a six-factor solution or a two-factor solution. There is a clear inflexion point after the second factor, at which point the plot begins to level off, thus indicating a two-factor solution. The two factor solution that was generated accounts for 47.608% of the variance (see Table 5.34). The two factors have eigenvalues greater than 2, thus reinforcing the suggestion that a two factor solution is present.

Table 5-35. shows the factor loadings for the two-factor model. The first factor is largely made up of items from the service role construct (service role items 1, 2, 3, 4, 5, 6, 7, 8, and 9), an additional two strategy role items (strategy role 1 and 2) and one control role item (control role 10). Strategy role item 2 is significantly cross-loaded onto factor 2 (>0.35) and thus is removed from factor 1. Service role item 1 is also significantly cross-loaded onto factor 2 (0.456>0.35) and excluded from factor 1. Similarly, control role item 10 has significant cross-loadings onto factor 2 and is excluded from factor 1. Accordingly, the factor 1 construct was made up of 9 items, service role items 2, 3, 4, 5, 6, 7, 8, and 9 and strategy role item 1. The mix of what were originally conceived as service role items and strategy role items in one factor underlines the previously discussed ambiguity in board role definition. Given the vast majority of items identified in the factor 1 construct relate to the service role board this construct may be termed as the service role of the board

The second factor is largely made up of items from the control role construct (control role items 1, 2, 3, 4, 5, 6, 7, 8 and 9), and an additional two strategy role items (strategy role items 3 and 4). However, control role item 8 and strategy roles 3 and 4 are significantly cross-loaded onto factor 1 and thus are excluded from the factor 2 construct. Accordingly, the factor 2 construct consists of control role items 1, 2, 3, 4, 5, 6, 7, and 9. Thus, this factor 2 construct is termed the control role of the board.

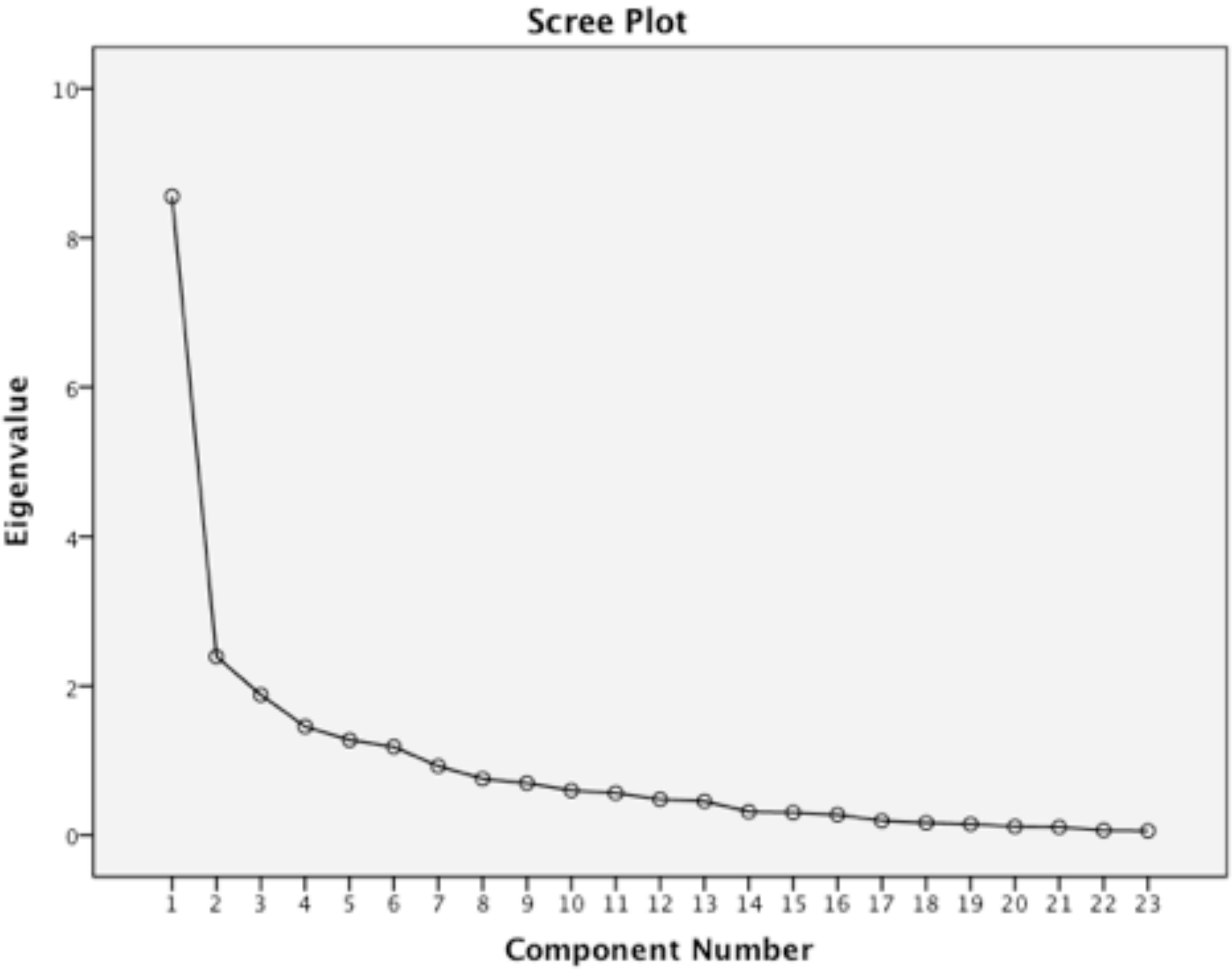

Figure 5.1. Factor Scree Plot for Board Roles

Table 5-34. Factor Analysis for Board Roles, Varimax Rotation

Total Variance Explained									
Component	Initial Eigenvalues	Extraction Sums of Squared Loadings	Rotation Sums of Squared Loadings						
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.557	37.203	37.203	8.557	37.203	37.203	5.975	25.980	25.980
2	2.393	10.405	47.608	2.393	10.405	47.608	4.974	21.628	47.608
3	1.882	8.181	55.789						
4	1.456	6.331	62.120						
5	1.275	5.545	67.665						
6	1.185	5.154	72.819						
7	0.926	4.027	76.846						
8	0.758	3.294	80.140						
9	0.700	3.042	83.183						
10	0.601	2.612	85.794						
11	0.566	2.460	88.255						
12	0.482	2.094	90.348						
13	0.456	1.983	92.331						
14	0.316	1.375	93.705						
15	0.305	1.327	95.033						
16	0.275	1.197	96.230						
17	0.196	0.851	97.080						
18	0.168	0.732	97.813						
19	0.150	0.653	98.465						
20	0.117	0.510	98.975						
21	0.108	0.471	99.446						
22	0.068	0.295	99.741						
23	0.060	0.259	100.000						

Table 5-35. Rotated Component Matrix for Two-Factor Solution

Rotated Component Matrix[a]	Component	
	1	2
Service Role 7	0.808	0.078
Service Role 9	0.762	0.026
Service Role 8	0.755	0.041
Service Role 3	0.683	0.143
Service Role 1	0.648	0.456
Strategy Role 1	0.643	0.224
Strategy Role 2	0.609	0.454
Service Role 5	0.606	0.177
Service Role 4	0.568	0.145
Service Role 6	0.555	0.160
Control Role 10	0.508	0.463
Service Role 2	0.459	0.115
Control Role 7	0.302	0.752
Control Role 6	0.148	0.731
Control Role 5	0.032	0.681
Control Role 3	-0.042	0.678
Control Role 2	0.234	0.664
Control Role 8	0.512	0.605
Control Role 4	-0.006	0.589
Strategy Role 4	0.519	0.577
Control Role 9	0.291	0.518
Control Role 1	0.285	0.459
Strategy Role 3	0.406	0.431

Summary of Factor Analysis of Board Roles

The factor analysis identified two board roles, service and control. Examining the factor loadings where values greater than 0.3 are considered significant, greater than 0.40 are considered very important and values greater than 0.50 are considered very significant (Hair et al., 1987), it would suggest that a number of items have significant cross-loadings (>0.3) and thus these are excluded from either construct. The first factor is predominately service role items and is thus termed service role. Those items that have significant loadings on the service role factor, but also have significant loadings on the control role factor are service role 1, and control role 10. These are excluded from the first factor, the service role construct. This leaves the service role construct consisting of service role items 7, 9, 8, 3, 5, 4, 6, 2 and strategy role item 1. This section reports the results of reliability testing for the items identified earlier in Section 5.4 above. The second factor comprises mainly control role items and is thus termed control role. As per the service role factor, a number of items are cross loaded from factor 2, control role onto factor 1, the service role. These are control role items 7 and 8 and strategy roles 3 and 4. This leaves the control role construct consisting of control role items 6, 5, 3, 2, 4, 9, and 1.

Reliability Analysis of Board Roles

The factor analysis outlined in the preceding section identified that the board undertakes two principal roles. The following section reports on the reliability analysis for the two roles identified: service role and control role.

Service Role

The items in the service role construct are 8 service role items from Huse (2007) plus one startegy role item from Huse (2007) and these are reported in Table 5-36.

Table 5-36. Service Role Items

12	Board members contribute with advice on legal and technical accounting issues.
13	Board members contribute with advice on financial issues (internal financing and investment).
14	Board members contribute with advice on technical issues (both production and information technology).
15	Board members contribute with advice on marketing issues.
16	Our board and its board members act as mentors for the CEO and the firm.
17	Board members contribute to building networks.
18	Board members contribute to lobbying and building legitimacy.
19	The company and the board often take advantage of the board members' networks to gather information/intelligence and advice.
21	Our board is involved in making decisions on the company's long term strategies and main goals

Table 5-37. Reliability Analysis for Service Role Construct

Reliability Statistics	
Cronbach's Alpha	N of Items
0.843	9

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Service Role 7	44.21	44.083	0.695	0.816
Service Role 9	44.41	42.816	0.627	0.819
Service Role 8	44.65	42.003	0.651	0.816
Service Role 3	43.92	45.964	0.607	0.825
Service Role 5	45.03	41.828	0.560	0.827
Service Role 6	44.45	41.708	0.523	0.833
Service Role 4	44.93	42.095	0.530	0.831
Service Role 2	44.48	44.539	0.429	0.841
Strategy Role 1	43.82	46.609	0.541	0.830

Table 5-37 shows that the the Cronbach Alpha for the 9-items was 0.843, indicating that the Service Role construct was reliable.

Control Role

The items in the control role construct are eight items from Wan & Ong (2005). The items are shown in table 5-38.

Table 5-38. Control Role Items

1	Board members monitor top management's decisions and decision-making.
2	Board members evaluate the performance of top executives.
3	The board has an internal mechanism to evaluate firm performance yearly.
4	Board members are formally evaluated by other board members.
5	Board members analyse budget allocation versus performance.
6	Board members require information showing progress against targets.
9	Board members engage in succession planning for the CEO.

Table 5-39. Reliability Analysis for the Control Role Construct

Reliability Statistics	
Cronbach's Alpha	N of Items
0.741	7

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Control Role 6	35.28	26.147	0.524	0.712
Control Role 5	35.65	22.906	0.541	0.691
Control Role 3	35.53	24.844	0.507	0.705
Control Role 2	35.33	24.901	0.563	0.699
Control Role 4	36.56	18.560	0.441	0.752
Control Role 9	36.10	21.469	0.506	0.699
Control Role 1	35.56	25.743	0.404	0.722

Table 5-39 shows that the Cronbach Alpha for the eight items was 0.741, indicating that the control role construct is a reliable measure. Whilst dropping control role item 4 shown in Table 5-37 increases the Cronbach Alpha score to 0.752 this improvement is not substantial and the eight-item construct was retained.

Board Effectiveness

Board Effectiveness is a relatively new construct, and was developed as a five-item measure drawn from Aguilera (2005), Bradshaw et al., (1992), Cornforth (2001), Denis & McConnell (2003), Green and Greisinger (1996), Huse (2005), and Langevoort (2001). The items are presented in Table 5-40. below.

Table 5-40. Board Effectiveness Items

1	Our board adds value to the company.
2	Our board improves company performance in the interest of shareholders.
3	Our board improves company performance in the interest of stakeholders.
4	Board members are satisfied with the board performance.
5	Our board is satisfied with board members' role performance.

Table 5-41 shows that the Cronbach Alpha for the five-items was 0.812 indicating that the board effectiveness construct is a reliable measure. However, dropping item 3 raises the Cronbach Alpha to 0.838 so given this is a new construct this increased reliability is seen as important thus the decision was taken to drop item 3 from Table 5-39. This leaves a four-item measure of Board Effectiveness. In the previous section 5.3, checks for common method bias in relation to the board effectiveness measure were outlined. Therefore, to check the validity of the board effectiveness measure board effectiveness was regressed against a firm performance measure, ROCE. This showed that board effectiveness was directly related to ROCE, thus validating the board effectiveness measure.

Table 5-41. Reliability Analysis for Board Effectiveness

Reliability Statistics	
Cronbach's Alpha	N of Items
0.812	5

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Board Effectiveness 1	23.95	7.723	0.618	0.780
Board Effectiveness 2	24.04	7.382	0.676	0.763
Board Effectiveness 3	24.38	7.060	0.429	0.838
Board Effectiveness 4	24.54	6.033	0.685	0.749
Board Effectiveness 5	24.39	6.324	0.705	0.742

5.5. Summary of Chapter 5

This chapter first reviewed the different research paradigms and their strengths and weakness in different types of studies, and identified the appropriate research design and methodology for this particular research. Due to the quantitative nature, this research is based on existing theories of corporate governance and board process research. To test research hypotheses, a survey questionnaire was employed to collect quantitative data to be subsequently analysed using SPSS. This chapter reported the process of research design, sampling, questionnaire design and administration, as well as response rate, non-response bias, common methods bias, and company profiles of respondents in a descriptive manner. Following this, a detailed description of the construction of the measurement scale was presented. The board governance orientation has two reliable constructs, resource dependency and stakeholder orientations, but two measures (Agency orientation and stewardship orientation) with low Cronbach Alphas indicating that they are not reliable. Thus, it was not possible to test the hypotheses relating to firms having different board governance orientation.

The board governance process items drawn from previously validated constructs all have Cronbach Alphas greater than 0.7 and thus are deemed reliable. Factor analysis of the board roles suggested a two factor solution accounting for 47.608% of total variance. The two factors identified were the service role and control role of the board respectively. Whilst the sample size for the factor analysis could be considered small, the KMO measure of 0.727 is deemed middling according to Kaiser (1974) and acceptable by Burns & Burns (2008). The reliability analysis of the service and control roles showed the Cronbach Alphas of the items derived from the factor analysis to be greater than 0.7 and thus acceptable.

The new construct, board effectiveness made up of four items from existing literature had a Cronbach Alpha of 0.838 and thus is deemed to be reliable (>0.70).

In summary, measures for board governance processes, the service role and control role of the board, and board effectiveness are seen to be reliable and thus allow further statistical analysis to test for the relationships between these variables as hypothesised in Chapter 4 Model and Hypothesis. The next chapter will present the findings of the regression analysis to test these hypotheses.

Chapter 6:

Data Analysis: Results and Findings

6.1 Introduction

Chapter 5 Research Design and Methodology reported data analysis of the measurement models of firm governance orientation, board governance processes (cohesiveness, communication quality, cognitive conflict, affective conflict, effort norms, trust, and the use of knowledge and skills), board role performance (control, service, and strategy), and board effectiveness. Chapter 6 reports the results of the regression analysis undertaken to test the hypotheses developed in Chapter 4 Research Model and Hypotheses.

As reported in Chapter 5 Research Design and Methodology, the construct developed for board governance orientation was not reliable for two of the proposed orientations, agency governance orientation and stewardship orientation. Consequently, it is not possible to test hypotheses 1-6 relating to board governance orientation and its impact on board role performance and board effectiveness. The remainder of this chapter will thus report on the results looking at the hypothesised relationships between the various board governance processes, board role performance and board effectiveness.

Chapter 5 Research Design and Methodology, reports that the factor analysis undertaken on the board role items identified two board roles, control and service as opposed to the three identified in Chapter 4 Research Model and Hypotheses. Given the lack of definitional and construct clarity of board roles in previous conceptual and empirical research the fact that the results suggested two distinct roles is an interesting finding and consistent with the roles named in Forbes & Milliken's

(1999) seminal paper. These results show that there is no clearly defined strategy role and thus this chapter will examine hypotheses 8 to 13 for the control role and service role only.

The remainder of this chapter will thus report on the testing of the hypotheses relating to board governance processes (cohesiveness, communication quality, affective conflict, cognitive conflict, the use of knowledge and skills, and trust), board control and service roles and board effectiveness.

6.2. Measurements

Dependent Variables

The dependent variable is board effectiveness. This is measured by using the mean of the four items developed in section 5.4. Board Effectiveness in the previous chapter.

Independent Variables

There are seven independent variables. These are cohesiveness, cognitive conflict, affective conflict, effort norms, the use of knowledge and skills, trust, and communication quality. These are all measured using the means of the items developed in section 6.3 Board Governance Processes.

Mediating Variables

There are two mediating variables, control role performance and service role performance respectively. These are measured using the means of the items developed in section 6.4. Board Role Performance.

Control Variables

There are a number of control variables used at the firm and board level similar to the approach of Minichilli et al. (2009). Firm size was controlled for at the firm level. Firm size was measured as number of employees. A logarithmic transformation was used to control for heteroskedasticity. Board demographics were controlled for at the board level: Board size, inside-outside ratio, CEO duality, and board members' shareholdings (Finkelstein & Mooney, 2003; Minnichilli et al., 2009). All the board control measures used information from the Hemscott financial database. Board size was measured as the number of directors. The inside-outside ratio was measured as the percentage of executive directors. CEO-Chair duality was measured as a dummy variable (0 = Separate CEO-chair; 1 = Dual CEO-chair). Board shareholdings was measured as the shareholdings of directors as a percentage of total shareholdings in the company.

6.3. Results

Descriptive Statistics

Table 6-1 shows the descriptive statistics for the variables in the model. Board size ranged from 3 to 14 members with an average size of 7.19 members. The average inside-outside ratio was 43.93%. Few boards had a dual CEO-chair with the vast majority separating the roles as recommended by the UK Combined Code. Firm size ranged from 1 employee to 386,157 with an average firm size of 11,976.15 employees. With regard to the other variables a number of aspects stand out. First, the control role performance has a higher mean and lower standard deviation than the service role performance. This suggests boards rate themselves highly when it comes to the control role functions of the board. Given the emphasis on control in the UK Combined Code awareness of their responsibilities in this role is perhaps not surprising. Second, the relatively low mean for affective conflict suggests boards have relatively little relationship conflict that interferes with the business of the board.

Table 6-1. Descriptive Statistics for Variables

Variable	Minimum	Maximum	Mean	Standard Deviation
Board effectiveness	4.00	7.00	6.09	0.66
Control role	4.00	7.00	6.00	0.75
Service role	3.56	7.00	5.55	0.82
Cohesiveness	1.50	7.00	5.26	0.86
Cognitive conflict	3.38	7.00	6.30	0.60
Affective conflict	1.00	5.33	2.17	0.98
Communication quality	4.38	7.00	6.13	0.65
Effort norms	2.50	7.00	5.74	0.84
Trust	2.00	7.00	5.87	0.85
The use of knowledge & skills	2.50	7.00	6.01	0.75
Board size	3	14	7.19	2.51
Inside-outside ratio	0.00%	75.00%	43.93%	16.17
CEO-chair duality	0	1	0.07	0.254
Firm size (no. of employees)	1	386,157	11,976.15	48,361.69
Board shareholdings	0.025%	59.159%	10.82%	15.29

Correlation Analysis

The correlation analysis in Table 6-2 shows significant correlations among the independent variables and among the control variables. This result may be of concern due to potential multicollinearity between the variables. In the regression analyses which are reported in the following sections, VIF statistics were all below 5, thus suggesting there was no multicollinearity problem (Burns and Burns, 2008).

Table 6-2 Correlation analysis among the variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Board effectiveness															
2. Control role	0.544**														
SR3. Service role	0.472**	0.401**													
4. Communication quality	0.610**	0.547**	0.486**												
5. Trust	0.622**	0.505**	0.530**	0.640**											
6. Knowledge & skills	0.655**	0.522**	0.628**	0.745**	0.782**										
7. Effort norms	0.533**	0.580**	0.520**	0.580**	0.579**	0.547**									
8. Affective conflict	-0.402**	-0.474**	-0.152	-0.402**	-0.393**	-0.257*	-0.436**								
9. Cognitive conflict	0.743**	0.696**	0.462**	0.665**	0.682**	0.718**	0.627**	-0.528**							
10. Cohesiveness	0.404**	0.309**	0.282*	0.214	0.503**	0.451**	0.182	-0.179	0.588**						
11. Board shareholdings	-0.049	-0.398**	-0.140	-0.175	0.053	-0.006	-0.246*	0.198	-0.058	0.226					
12. CEO-chair duality	0.166	-0.051	0.133	0.013	0.029	0.062	0.012	-0.024	0.101	0.184	0.258*				
13. Inside ratio	-0.192	-0.455**	-0.043	-0.106	-0.040	-0.077	-0.199	0.278*	-0.130	0.013	0.478**	0.256*			
14. Board size	0.187	0.166	0.042	0.054	0.025	0.006	0.021	-0.267*	0.078	-0.141	-0.182	0.153	-0.192		
15. Firm size	0.219	0.337**	-0.021	0.140	0.103	0.108	0.125	-0.212	0.191	0.039	-0.442**	-0.150	-0.644	0.594**	

The table shows the Pearson correlation coefficient: *<0.05; **<0.01

Regression Analyses

To test the relationships in the model and the hypotheses developed in Chapter 4: Research Model and Hypotheses Development, regression analysis was utilised.

The Relationship between Board Control Role and Board Effectiveness

Table 6-3. Regression Analysis of Board Control Role and Board Effectiveness

	Board Effectiveness
Board control role	0.544**
Adjusted R^2	0.286
F change	29.499

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value and significance of the F change. The levels of significance are *<0.05; **<0.01*

The results in Table 6-3. show the testing of Hypothesis 7a that board control role performance is positively related to board effectiveness. The results show board control role is positively related to board effectiveness at the 1% level and thus Hypothesis 7a, board control role performance is positively related to board effectiveness is accepted.

The Relationship between Board Service Role and Board Effectiveness

Table 6-4. Regression Analysis of Board Service Role and Board Effectiveness

	Board Effectiveness
Board control role	0.485**
Adjusted R^2	0.211
F change	19.756

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value and significance of the F change. The levels of significance are *<0.05; **<0.01*

The results in Table 6-3. show the testing of Hypothesis 7b that board service role performance is positively related to board effectiveness. The results show board service role is positively related to board effectiveness at the 1% level and thus Hypothesis 7b, board service role is positively related to board effectiveness is accepted.

The Relationship Between Cohesiveness, Board Control Role, Board Service Role and Board Effectiveness

To test the remaining hypotheses, regression analysis based on the Baron & Kenny (1986) method was conducted following three steps. First, the independent variable was regressed against the mediating variables. Second, the independent variable was regressed against the dependent variable. Finally, both the independent and mediating variables were regressed against the dependent variable. According to Baron & Kenny (1986), if all these conditions hold in the predicted direction, then the effect of the independent variable on the dependent variable must be less in the third step than the second step. This procedure was followed to test the relationship between all the board processes (cohesiveness, cognitive conflict, affective conflict, effort norms, the use of knowledge and skills, trust, and communication quality) and board effectiveness mediated by the control role and service role of the board respectively. The regression analyses for all three steps were undertaken for two different models. The first model excludes the control variables, and the second model includes the control variables for tables 6-6 onwards. Complementing the causal step approach of Baron & Kenny (1986), a Sobel test was conducted similar to the approach of De Jong & Elfring (2010), to determine the significance of the mediating variables for all the independent variables.

Table 6-5. Regression Analysis of Cohesiveness and Board Effectiveness

	Board Effectiveness	
	Model 1	Model 2
Cohesiveness	0.404**	
Cohesiveness squared		0.308**
Adjusted R^2	0.151	0.132
F change	13.662**	11.838**

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value and significance of the F change. The levels of significance are *<0.05; **<0.01*

The results in Table 6-5. show the testing of Hypothesis 8a that board cohesiveness has a curvilinear relationship with board effectiveness. In Model 1, the independent variable, cohesiveness was regressed against the dependent variable, board effectiveness. To check whether the relationship between cohesiveness and board effectiveness was a non-linear one, a second model was used. In Model 2, cohesiveness squared was regressed against board effectiveness. The results show that the relationship could be either a linear or a non-linear one. This is a somewhat paradoxical outcome. However, this could potentially be explained by both the relatively small sample and that cohesiveness had a low variance (=0.73). These results suggest the relationship between cohesiveness and board effectiveness may be a linear one and potentially a non-linear one. The outcome does however suggest that Hypothesis 8a, board cohesiveness has a curvilinear relationship with board effectiveness, cannot be wholly supported.

Table 6-6. Regression Analysis of Cohesiveness, Board Control Role, Board Service Role, and Board Effectiveness

	Control Role		Service Role		Board Effectiveness	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Cohesiveness	0.315**	0.267*	0.282**	0.299*	0.404**	0.291*
Board size		0.129		0.173		0.293
Inside-outside ratio		-0.342*		-0.054		-0.228
CEO-chair duality		0.064		0.115		-0.167
Board shareholdings		-0.395**		-0.299*		-0.143
Firm size		-0.155		-0.276		-0.180
Adjusted R^2	0.086	0.287	0.066	0.081	0.151	0.147
F change	7.465**	5.487**	5.854*	1.986	13.662**	2.919*

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value and significance of the F change. The levels of significance are *<0.05; **<0.01*

The results presented in Table 6-6. provide the outcomes to the first two steps of the Baron & Kenny (1986) method of testing for mediation for both Model 1 and Model 2. In the first step, the independent variable, cohesiveness was regressed against the mediating variables, control role and service role. In the second step, the independent variable, cohesiveness was regressed against the dependent variable, board effectiveness. In Model 1, the independent variable, cohesiveness was significantly and positively related to the mediating variables, control role (ß = 0.315, $p < 0.01$), service role (ß = 0.282, $p < 0.01$) and the dependent variable, board effectiveness (ß = 0.404, $p < 0.01$). In Model 2, the independent variable, cohesiveness was significantly and positively related to the mediating variables, control role (ß = 0.267, $p < 0.05$), service role (ß = 0.299, $p < 0.05$) and the dependent variable, board effectiveness (ß = 0.291, $p < 0.05$). These results meet the first two criteria to establish mediation (Baron & Kenny, 1986): the independent variable affects the dependent variable, and the independent variable affects the mediator. In addition to the independent variable, cohesiveness being positively related to the control role, two of the control variables were found to be related the control role. First, the inside ratio was negatively related to the control role (ß = -0.342, $p < 0.05$), suggesting that the greater the number of insiders on the board the less active the board is in undertaking their control role. This finding is similar to that predicted in agency theory (Fama & Jensen, 1983; Jensen & Meckling, 1976). Second, the proportion of shares held by board members was also significantly negatively related to the control role (ß = -0.392, $p < 0.01$). This result is expected because of incentive alignment, there is less need for monitoring.

Table 6-7. Regression Analysis of Cohesiveness, Board Control Role and Board Effectiveness

	Board Effectiveness	
	Model 1	Model 2
Cohesiveness	0.281*	0.174
Board size		0.237
Inside-outside ratio		-0.078
CEO-chair duality		0.139
Board shareholdings		0.031
Firm size		-0.112
Control Role	0.423**	0.439**
Adjusted R^2	0.312	0.272
F change	16.674**	4.578**

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value and significance of the F change. The levels of significance are *<0.05; **<0.01*

Table 6-8. Regression Analysis of Cohesiveness, Board Service Role and Board Effectiveness

	Board Effectiveness	
	Model 1	Model 2
Cohesiveness	0.307**	0.181
Board size		0.230
Inside-outside ratio		-0.208
CEO-chair duality		0.125
Board shareholdings		-0.033
Firm size		-0.078
Service Role	0.378**	0.369**
Adjusted R^2	0.282	0.259
F change	14.531**	4.354**

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

The results presented in Tables 6-7. and 6-8. provides the outcome of the third step of the mediation testing. The independent variable, cohesiveness was regressed against each mediating variable, control role and service role and the dependent variable, board effectiveness. This was completed for both mediators separately. At this stage, according to Baron & Kenny (1986), the mediating variables must affect the dependent variable and that the effect of the independent variable on dependent variable must be less than that in the second stage. In both models 1 and 2, the mediating variables, control role (ß = 0.423, $p < 0.01$; ß = 0.439, $p < 0.01$) and service role (ß = 0.378, $p < 0.01$; ß = 0.369, $p < 0.01$) were positively related to the dependent variable, board effectiveness. The results also show that the beta value for the independent variable, cohesiveness was lower when including the mediating variables, control role (ß = 0.281 < 0.404; 0.174 < 0.291) and service role (0.307 < 0.404) and (0.181 < 0.291). This, thus meets the criteria for mediation following Baron & Kenny's (1986) causal step approach. Complementing this approach, the Sobel test was conducted to determine the significance of the mediated effect of cohesiveness on board effectiveness via the board control role and the board service role. The results confirm the mediating effects of the board control role ($z = 2.26 > 1.96$, $p < 0.05$), and the board service role ($z = 2.00 > 1.96$, $p < 0.05$). Together, these results suggest that the board control role and the board service role mediate the relationship between cohesiveness and board effectiveness, a pattern of results that supports Hypothesis 8b, the relationship between board cohesiveness and board effectiveness is mediated by the board control role and board service role.

The Relationship Between Communication Quality and Board Effectiveness

The results presented in Table 6-9. provide the outcomes to the first two steps of the Baron & Kenny (1986) method of testing for mediation for both Model 1 and Model 2. In the first step, the independent variable, communication quality was regressed against the mediating variables, control role and service role. In the second step, the independent variable, communication quality was regressed against the dependent variable, board effectiveness. In Model 1, the independent variable, communication quality was significantly and positively related to the mediating variables, control role (ß = 0.532, $p < 0.01$), service role (ß = 0.486, $p < 0.01$) and the dependent variable, board effectiveness (ß = 0.610, $p < 0.01$). Similar results were found in Model 2. Communication quality was significantly and positively related to the mediating variables, control role (ß = 0.452, $p < 0.01$), service role (ß = 0.451, $p < 0.01$) and the dependent variable, board effectiveness (ß = 0.567, $p < 0.01$). These results meet the first two criteria to establish mediation (Baron & Kenny, 1986): the independent variable affects the dependent variable, and the independent variable affects the mediator. In addition to the independent variable, communication quality being positively related to the control role, one of the control variables were found to be related the control role. The inside ratio was negatively related to the control role (ß = -0.398, $p < 0.01$), suggesting that the greater the number of insiders on the board the less active the board is in undertaking their control role. This finding is similar to that predicted in agency theory (Fama & Jensen, 1983; Jensen & Meckling, 1976).

Table 6-9. Regression Analysis of Communication Quality, Board Control Role, Board Service Role, and Board Effectiveness

	Control Role		Service Role		Board Effectiveness	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Communication quality	0.532**	0.452**	0.486**	0.451**	0.610**	0.567**
Board size		0.040		0.083		0.179
Inside-outside ratio		-0.398**		-0.117		-0.289*
CEO-chair duality		0.072		0.142		-0.164
Board shareholdings		-0.191		-0.118		0.133
Firm size		-0.122		-0.253		-0.127
Adjusted R^2	0.273	0.399	0.225	0.201	0.363	0.371
F change	27.240	8.523	21.050	3.816	42.088	7.694

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

Table 6-10. Regression Analysis of Communication Quality, Board Control Role and Board Effectiveness

	Board Effectiveness	
	Model 1	Model 2
Communication quality	0.463**	0.443**
Board size		0.168
Inside-outside ratio		-0.179
CEO-chair duality		0.144
Board shareholdings		0.185
Firm size		-0.093
Control Role	0.267*	0.274*
Adjusted R^2	0.400	0.407
F change	24.320	7.663

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

Table 6-11. Regression Analysis of Communication Quality, Board Service Role and Board Effectiveness

	Board Effectiveness	
	Model 1	Model 2
Communication Quality	0.486**	0.447**
Board size		0.174
Inside-outside ratio		-0.264*
CEO-chair duality		0.153
Board shareholdings		0.087
Firm size		-0.089
Service Role	0.235*	0.225*
Adjusted R^2	0.385	0.401
F change	22.556	7.414

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

The results presented in Tables 6-10. and 6-11. provides the outcome of the third step of the mediation testing. The independent variable, effort norms was regressed against each mediating variable, control role and service role and the dependent variable, board effectiveness. This was completed for both mediators separately. At this stage, according to Baron & Kenny (1986), the mediating variables must affect the dependent variable and that the effect of the independent variable on dependent variable must be less than that in the second stage. In both models 1 and 2, the mediating variables, control role (ß = 0.267, $p < 0.05$; ß = 0.274, $p < 0.05$) and service role (ß = 0.235, $p < 0.05$; ß = 0.225, $p < 0.05$) were positively related to the dependent variable, board effectiveness. The results also show that the beta value for the independent variable, communication quality was lower when including the mediating variables, control role (ß = 0.463 < 0.610; 0.453 < 0.567) and service role (0.486 < 0.610) and (0.447 < 0.567). This, thus meets the criteria for mediation following Baron & Kenny's (1986) causal step approach. Complementing this approach, the Sobel test was conducted to determine the significance of the mediated effect of affective conflict on board effectiveness via the board control role and the board service role. The results confirm the mediating effects of the board control role ($z = 2.21 > 1.96$, $p < 0.05$), and the board service role ($z = 1.961 > 1.96$, $p < 0.05$). Together, these results suggest that the board control role and the board service role mediate the relationship between communication quality and board effectiveness, a pattern of results that supports Hypothesis 9a, communication quality is positively related to board effectiveness and Hypothesis 9b, the relationship between communication quality and board effectiveness is mediated by the board's control role and the board's service role.

The Relationship Between Cognitive Conflict and Board Effectiveness

Table 6-12. Regression Analysis of Cognitive Conflict, Board Control Role, Board Service Role, and Board Effectiveness

	Control Role		Service Role		Board Effectiveness	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Cognitive conflict	0.670**	0.652**	0.426**	0.409**	0.743**	0.661**
Board size		-0.037		0.036		0.120
Inside-outside ratio		-0.329**		-0.078		-0.217
CEO-chair duality		0.026		0.129		-0.105
Board shareholdings		-0.253**		-0.195		0.088
Firm size		-0.046		-0.209		-0.057
Adjusted R^2	0.441	0.639	0.169	0.174	0.546	0.490
F change	56.248**	21.099**	15.080**	3.347**	87.528**	11.901**

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

Table 6-13. *Regression Analysis of Cognitive Conflict, Board Control Role and Board Effectiveness*

	Board Effectiveness	
	Model 1	Model 2
Cognitive conflict	0.726**	0.680**
Board size		0.119
Inside-outside ratio		-0.227
CEO-chair duality		0.105
Board shareholdings		0.080
Firm size		-0.058
Control Role	0.026	-0.030
Adjusted R^2	0.541	0.482
F change	42.173**	10.048**

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

Table 6-14. Regression Analysis of Cognitive Conflict, Board Service Role and Board Effectiveness

	Board Effectiveness	
	Model 1	Model 2
Cognitive conflict	0.653**	0.557**
Board size		0.122
Inside-outside ratio		-0.204
CEO-chair duality		0.092
Board shareholdings		0.086
Firm size		-0.025
Service Role	0.200*	0.211*
Adjusted R^2	0.565	0.509
F change	45.736**	10.924**

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

The results presented in Table 6-12. provide the outcomes to the first two steps of the Baron & Kenny (1986) method of testing for mediation for both Model 1 and Model 2. In the first step, the independent variable, cognitive conflict was regressed against the mediating variables, control role and service role. In the second step, the independent variable, cognitive conflict was regressed against the dependent variable, board effectiveness. In Model 1, the independent variable, cognitive conflict is significantly and positively related to the mediating variables, control role (ß = 0.670, $p < 0.01$), service Role (ß = 0.426, $p < 0.01$) and the dependent variable, board effectiveness (ß = 0.743, $p < 0.01$). In Model 2, the independent variable, cognitive conflict is significantly and positively related to the mediating variables, control role (ß = 0.652, $p < 0.01$), service role (ß = 0.409, $p < 0.01$) and the dependent variable, board effectiveness (ß = 0.661, $p < 0.01$). These results meet the first two criteria to establish mediation (Baron & Kenny, 1986): the independent variable affects the dependent variable, and the independent variable affects the mediator. In addition to the independent variable, cognitive conflict being positively related to the control role, two of the control variables were found to be related the control role. First, the inside ratio was significantly negatively related to the control role (ß = -0.329, $p < 0.01$), suggesting that the greater the number of insiders on the board the less active the board is in undertaking their control role. This finding is again similar to that predicted in agency theory (Fama & Jensen, 1983; Jensen & Meckling, 1976). Second, the proportion of shares held by board members was also significantly negatively related to the control role (ß = -0.253, $p < 0.01$). This result is again expected as incentive alignment means there is less need for monitoring.

The results presented in Tables 6-13. and 6-14. provides the outcome of the third step of the mediation testing. The independent variable, cognitive conflict was regressed against each mediating variable, control role and service role and the dependent variable, board effectiveness. This was completed for both mediators separately. At this stage, according to Baron & Kenny

(1986), the mediating variables must affect the dependent variable and that the effect of the independent variable on dependent variable must be less than that in the second stage. In both models 1 and 2, the mediating variable, control role was not significantly related to the dependent variable, board effectiveness. Thus, the control role of the board was found not to be a mediating variable in the relationship between cognitive conflict and board effectiveness. Alternatively, the other mediating variable, service role (ß = 0.200, $p < 0.05$; ß = 0.211, $p < 0.05$) was positively related to the dependent variable, board effectiveness. The results also show that the beta value for the independent variable, cognitive conflict was lower when including the mediating variable, service role (0.653 < 0.743) and (0.557 < 0.661). This meets the criteria for mediation following Baron & Kenny's (1986) causal step approach. Complementing this approach, the Sobel test was conducted to determine the significance of the mediated effect of cognitive conflict on board effectiveness via the board service role. The result suggested that the service role was not a significant mediator of the relationship between cognitive conflict and board effectiveness at the five per cent level of significance, however was a significant mediator at the ten per cent level ($z = 1.90 > 1.96$, $p < 0.1$). These results clearly show that the board control role does not mediate the relationship between cognitive conflict and board effectiveness. The result for the service role as mediator was less clear. The Baron & Kenny (1986) method supports the mediating effect of the board's service role on the relationship between cognitive conflict and board effectiveness. The more stringent Sobel test result indicated that the mediating effect of the board service role was only significant at ten per cent. However, this result may be explained by the relatively small sample upon which the Sobel test was conducted and, that according to Preacher & Hayes (2004), the Sobel test is best suited to large samples. Thus, the Sobel test does not necessarily mean that the mediating effect of the board service role was not supported. Overall, the results indicate that Hypothesis 10a, board cognitive conflict is positively related to board effectiveness was supported, and Hypothesis 10b, the relationship between cognitive conflict and board effectiveness is mediated by the board's control role and the board's service role was partially supported.

The Relationship Between Affective Conflict and Board Effectiveness

Table 6-15. Regression Analysis of Affective Conflict, Board Control Role, Board Service Role, and Board Effectiveness

	Control Role		Service Role		Board Effectiveness	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Affective conflict	-0.478**	-0.362**	-0.152	-0.084	-0.402**	-0.259*
Board size		-0.068		0.071		0.126
Inside-outside ratio		-0.236		-0.079		-0.189
CEO-chair duality		0.104		0.175		-0.215
Board shareholdings		-0.327**		-0.235		-0.062
Firm size		-0.028		-0.241		-0.089
Adjusted R^2	0.217	0.342	0.009	0.000	0.150	0.119
F change	20.168	6.815	1.603	0.993	13.493	2.504

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

The results presented in Table 6-15. provide the outcomes to the first two steps of the Baron & Kenny (1986) method of testing for mediation for both Model 1 and Model 2. In the first step, the independent variable, affective conflict was regressed against the mediating variables, control role and service role. In the second step, the independent variable, affective conflict was regressed against the dependent variable, board effectiveness. In Model 1, the independent variable, affective conflict was significantly and negatively related to the mediating variable, control role (ß = -0.478, $p < 0.01$), and to the dependent variable, board effectiveness (ß = -0.402), but not to the other mediating variable, service role. In Model 2, similar results were obtained. Affective conflict was negatively related to the control role (ß = -0.362, $p < 0.01$) and to board effectiveness (ß = -0.259, $p < 0.05$), but not significantly related to the service role. These results for the control role meet the first two criteria to establish mediation (Baron & Kenny, 1986): the independent variable affects the dependent variable, and the independent variable affects the mediator. In addition to the independent variable, affective conflict being negatively related to the control role, one of the control variables were found to be related the control role. The proportion of shares held by board members was also significantly negatively related to the control role (ß = -0.327, $p < 0.01$). This result is once again as expected. Greater incentive alignment reduces the need for monitoring.

Table 6-16. Regression Analysis of Affective Conflict, Board Control Role and Board Effectiveness

	Board Effectiveness	
	Model 1	Model 2
Affective conflict	-0.188	-0.089
Board size		0.157
Inside-outside ratio		-0.078
CEO-chair duality		0.166
Board shareholdings		0.092
Firm size		-0.076
Control Role	0.425**	0.470**
Adjusted R^2	0.272	0.252
F change	13.858	4.219

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

The results presented in Tables 6-16. and 6-17. provides the outcome of the third step of the mediation testing. The independent variable, affective conflict was regressed against the mediating variable, control role and the dependent variable, board effectiveness. At this stage, according to Baron & Kenny (1986), the mediating variables must affect the dependent variable and that the effect of the independent variable on dependent variable must be less than that in the second stage. In both models 1 and 2, the mediating variable, control role (ß = 0.425, $p < 0.01$; ß = 0.470, $p < 0.01$) was positively related to the dependent variable, board effectiveness. The results also show that the beta value for the independent variable, affective conflict was lower when including the mediating variables, control role (ß = |0.188| < |0.402|; |0.089| <|0.259|). This, thus meets the criteria for mediation following Baron & Kenny's (1986) causal step approach. Complementing this approach, the Sobel test was conducted to determine the significance of the mediated effect of cohesiveness on board effectiveness via the board control role and the board service role. The results confirm the mediating effects of the board control role ($z = -2.816 < -1.96$, $p < 0.01$). Together, these results suggest that the board control role mediates the relationship between affective conflict and board effectiveness, but the board service role was found not to be a mediating variable. Overall, these results support Hypotheses 10c, board affective conflict is negatively related to board effectiveness, and partially support Hypothesis 10d, the relationship between affective conflict and board effectiveness is mediated by the board's control role and the board's service role.

Table 6-17. Regression Analysis of Affective Conflict, Board Service Role and Board Effectiveness

	Board Effectiveness	
	Model 1	Model 2
Affective conflict	-0.328**	-0.224
Board size		0.060
Inside-outside ratio		-0.157
CEO-chair duality		-0.143
Board shareholdings		0.035
Firm size		0.011
Service Role	0.420**	0.413**
Adjusted R^2	0.306	0.277
F change	16.183	4.673

*Note: The table shows the standardised coefficients (β), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

The Relationship Between Effort Norms and Board Effectiveness

Table 6-18. Regression Analysis of Effort Norms, Board Control Role, Board Service Role, and Board Effectiveness

	Control Role		Service Role		Board Effectiveness	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Effort norms	0.562**	0.476**	0.520**	0.488**	0.533**	0.472**
Board size		0.033		0.077		0.180
Inside-outside ratio		-0.319*		-0.036		-0.209
CEO-chair duality		0.049		0.122		-0.148
Board shareholdings		-0.159		-0.097		0.143
Firm size		-0.046		-0.178		-0.058
Adjusted R^2	0.306	0.416	0.259	0.228	0.274	0.255
F change	32.351	9.195	25.525	4.351	28.577	4.945

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

Table 6-19. Regression Analysis of Effort Norms, Board Control Role and Board Effectiveness

	Board Effectiveness	
	Model 1	Model 2
Effort norms	0.353**	0.302*
Board size		0.168
Inside-outside ratio		-0.095
CEO-chair duality		0.130
Board shareholdings		0.200
Firm size		-0.042
Control Role	0.315**	0.358*
Adjusted R^2	0.330	0.320
F change	18.472	5.629

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

Table 6-20. Regression Analysis of Effort Norms, Board Service Role and Board Effectiveness

	Board Effectiveness	
	Model 1	Model 2
Effort norms	0.399**	0.321*
Board size		0.176
Inside-outside ratio		-0.204
CEO-chair duality		0.142
Board shareholdings		0.075
Firm size		-0.037
Service Role	0.264*	0.277*
Adjusted R^2	0.319	0.316
F change	17.418	5.490

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

The results presented in Table 6-18. provide the outcomes to the first two steps of the Baron & Kenny (1986) method of testing for mediation for both Model 1 and Model 2. In the first step, the independent variable, effort norms was regressed against the mediating variables, control role and service role. In the second step, the independent variable, effort norms was regressed against the dependent variable, board effectiveness. In Model 1, the independent variable, effort norms was significantly and positively related to the mediating variables, control role (ß = 0.562, p < 0.01), service role (ß = 0.520, p < 0.01) and the dependent variable, board effectiveness (ß = 0.533, p < 0.01). Similar results were found in Model 2. Effort norms was significantly and positively related to the mediating variables, control role (ß = 0.476, p < 0.01), service role (ß = 0.488, p < 0.01) and the dependent variable, board effectiveness (ß = 0.472, p < 0.01). These results meet the first two criteria to establish mediation (Baron & Kenny, 1986): the independent variable affects the dependent variable, and the independent variable affects the mediator. In addition to the independent variable, effort norms being positively related to the control role, one of the control variables were found to be related the control role. The inside ratio was negatively related to the control role ($ß = -0.319$, $p < 0.05$), suggesting that the greater the number of insiders on the board the less active the board is in undertaking their control role. This finding is similar to that predicted in agency theory (Fama & Jensen, 1983; Jensen & Meckling, 1976).

The results presented in Tables 6-19. and 6-20. provides the outcome of the third step of the mediation testing. The independent variable, effort norms was regressed against each mediating variable, control role and service role and the dependent variable, board effectiveness. This was completed for both mediators separately. At this stage, according to Baron & Kenny (1986), the mediating variables must affect the dependent variable and that the effect of the independent variable on dependent variable must be less than that in the second stage. In both models 1 and 2, the mediating variables, control role ($ß = 0.315$, $p < 0.01$; $ß = 0.358$, $p < 0.05$) and service role ($ß = 0.264$, $p < 0.05$; $ß = 0.277$, $p < 0.05$) were positively related to the dependent variable, board effectiveness. The results also show that the beta value for the independent variable, effort norms was lower when including the mediating variables, control role ($ß = 0.353 < 0.533$; $0.302 < 0.472$) and service role ($0.399 < 0.533$) and ($0.321 < 0.472$). This, thus meets the criteria for mediation following Baron & Kenny's (1986) causal step approach. Complementing this approach, the Sobel test was conducted to determine the significance of the mediated effect of effort norms on board effectiveness via the board control role and the board service role. The results confirm the mediating effects of the board control role ($z = 2.44 > 1.96$, $p < 0.05$), and the board service role ($z = 2.08 > 1.96$, $p < 0.05$). Together, these results suggest that the board control role and the board service role mediate the relationship between effort norms and board effectiveness, a pattern of results that supports Hypotheses 11a, board effort norms are positively related to board effectiveness and Hypothesis 11b, the relationship between board effort norms and board effectiveness is mediated by the board's control role and the board's service role.

The Relationship Between The Use of Knowledge & Skills and Board Effectiveness

Table 6-21. Regression Analysis of The Use of Knowledge & Skills, Board Control Role, Board Service Role, and Board Effectiveness

	Control Role		Service Role		Board Effectiveness	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Use of knowledge & skills	0.496**	0.438**	0.628**	0.658**	0.655**	0.557**
Board size		0.006		0.019		0.141
Inside-outside ratio		-0.354**		-0.044		-0.228
CEO-chair duality		0.070		0.118		-0.161
Board shareholdings		-0.267*		-0.159		0.037
Firm size		-0.043		-0.118		-0.30
Adjusted R^2	0.235	0.395	0.386	0.449	0.421	0.364
F change	22.783	8.495	44.987	10.251	54.140	7.582

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

Table 6-22. Regression Analysis of The Use of Knowledge & Skills, Board Control Role and Board Effectiveness

	Board Effectiveness	
	Model 1	Model 2
The use of knowledge & skills	0.529**	0.432**
Board size		0.139
Inside-outside ratio		-0.127
CEO-chair duality		0.141
Board shareholdings		0.113
Firm size		-0.017
Control Role	0.251*	0.286*
Adjusted R^2	0.460	0.404
F change	31.219	7.685

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

Table 6-23. Regression Analysis of The Use of Knowledge & Skills, Board Service Role and Board Effectiveness

	Board Effectiveness	
	Model 1	Model 2
The use of knowledge & skills	0.575**	0.451**
Board size		0.152
Inside-outside ratio		-0.227
CEO-chair duality		0.166
Board shareholdings		0.000
Firm size		-0.036
Service Role	0.110	0.120
Adjusted R^2	0.406	0.356
F change	24.904	6.376

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

The results presented in Table 6-21. provide the outcomes to the first two steps of the Baron & Kenny (1986) method of testing for mediation for both Model 1 and Model 2. In the first step, the independent variable, the use of knowledge & skills was regressed against the mediating variables, control role and service role. In the second step, the independent variable, the use of knowledge & skills was regressed against the dependent variable, board effectiveness. In Model 1, the independent variable, the use of knowledge & skills was significantly and positively related to the mediating variables, control role (ß = 0.496, $p < 0.01$), service role (ß = 0.628, $p < 0.01$) and the dependent variable, board effectiveness (ß = 0.655, $p < 0.01$). Similar results were found in Model 2. The use of knowledge & skills was significantly and positively related to the mediating variables, control role (ß = 0.438, $p < 0.01$), service role (ß = 0.658, $p < 0.01$) and the dependent variable, board effectiveness (ß = 0.557, $p < 0.01$). These results meet the first two criteria to establish mediation (Baron & Kenny, 1986): the independent variable affects the dependent variable, and the independent variable affects the mediator. In addition to the independent variable, the use of knowledge and skills being positively related to the control role, two of the control variables were found to be related the control role. First, the inside ratio was negatively related to the control role ($ß = -0.354$, $p < 0.01$), suggesting that the greater the number of insiders on the board the less active the board is in undertaking their control role. This finding is similar to that predicted in agency theory (Fama & Jensen, 1983; Jensen & Meckling, 1976). Second, the proportion of shares held by board members was also significantly negatively related to the control role ($ß = -0.267$, $p < 0.05$).

The results presented in Tables 6-22. and 6-23. provides the outcome of the third step of the mediation testing. The independent variable, the use of knowledge & skills was regressed against each mediating variable, control role and service role and the dependent variable, board effectiveness. This was completed for both mediators separately. At this stage, according to Baron & Kenny (1986), the mediating variables must affect the dependent variable and that the effect of the independent variable on dependent variable must be less than that in the second stage. In both models 1 and 2, the mediating variable, service role was not significantly related to the dependent variable, board effectiveness. Thus, the service role was not found to be a mediator of the relationship between the use of knowledge & skills and board effectiveness. On the other hand, the other mediating variable, control role was significantly related to the dependent variable, board effectiveness ($ß = 0.251$, $p < 0.05$; $ß = 0.286$, $p < 0.05$). The results also show that the beta value for the independent variable, the use of knowledge & skills was lower when including the mediating variable, control role ($0.529 < 0.655$) and ($0.432 < 0.557$). This, thus meets the criteria for mediation following Baron & Kenny's (1986) causal step approach. Complementing this approach, the Sobel test was conducted to determine the significance of the mediated effect of the use of knowledge & skills on board effectiveness via the board control role. The result suggested that the control role was a significant mediator of the relationship between the use of knowledge & skills and board effectiveness at the five per cent level of significance ($z = 2.21 > 1.96$, $p < 0.05$).

Together, these results suggest that the board control role mediates the relationship between the use of knowledge & skills and board effectiveness, but the board service role was not a mediator. This, thus supports Hypothesis 12a, board use of knowledge and skills is positively related to board effectiveness and partially supports Hypothesis 12b, the relationship between the use of knowledge and skills and board effectiveness is mediated by the board's control role and the board's service role.

The Relationship Between Trust and Board Effectiveness

Table 6-24. Regression Analysis of Trust, Board Control Role, Board Service Role, and Board Effectiveness

	Control Role		Service Role		Board Effectiveness	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Trust	0.494**	0.432**	0.530**	0.552**	0.622**	0.518**
Board size		-0.006		0.020		0.131
Inside-outside ratio		-0.279*		0.008		-0.174
CEO-chair duality		0.096		0.162		-0.191
Board shareholdings		-0.335**		-0.243*		-0.018
Firm size		-0.011		-0.118		-0.010
Adjusted R^2	0.233	0.386	0.271	0.315	0.378	0.311
F change	22.239	8.092	26.613	6.141	44.069	6.120

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

The results presented in Table 6-24. provide the outcomes to the first two steps of the Baron & Kenny (1986) method of testing for mediation for both Model 1 and Model 2. In the first step, the independent variable, trust was regressed against the mediating variables, control role and service role. In the second step, the independent variable, trust was regressed against the dependent variable, board effectiveness. In Model 1, the independent variable, trust was significantly and positively related to the mediating variables, control role (ß = 0.494, $p < 0.01$), service role (ß =

0.530, $p < 0.01$) and the dependent variable, board effectiveness (ß = 0.622, $p < 0.01$). Similar results were found in Model 2. Trust was significantly and positively related to the mediating variables, control role (ß = 0.432, $p < 0.01$), service role (ß = 0.552, $p < 0.01$) and the dependent variable, board effectiveness (ß = 0.518, $p < 0.01$). These results meet the first two criteria to establish mediation (Baron & Kenny, 1986): the independent variable affects the dependent variable, and the independent variable affects the mediator. In addition to the independent variable, trust being positively related to the control role, two of the control variables were found to be related the control role. First, the inside ratio was negatively related to the control role (ß = -0.279, $p < 0.05$), suggesting that the greater the number of insiders on the board the less active the board is in undertaking their control role. This finding is similar to that predicted in agency theory (Fama & Jensen, 1983; Jensen & Meckling, 1976). Second, the proportion of shares held by board members was also significantly negatively related to the control role (ß = -0.335, $p < 0.01$).

Table 6-25. Regression Analysis of Trust, Board Control Role and Board Effectiveness

	Board Effectiveness	
	Model 1	Model 2
Trust	0.490**	0.379**
Board size		0.133
Inside-outside ratio		-0.084
CEO-chair duality		0.160
Board shareholdings		0.090
Firm size		-0.007
Control Role	0.268*	0.323*
Adjusted R^2	0.425	0.365
F change	26.836	6.584

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

Table 6-26. Regression Analysis of Trust, Board Service Role and Board Effectiveness

	Board Effectiveness	
	Model 1	Model 2
Trust	0.507**	0.378**
Board size		0.144
Inside-outside ratio		-0.179
CEO-chair duality		0.180
Board shareholdings		-0.038
Firm size		-0.011
Service Role	0.201	0.210
Adjusted R^2	0.388	0.336
F change	22.860	5.853

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

The results presented in Tables 6-25. and 6-26. provides the outcome of the third step of the mediation testing. The independent variable, trust was regressed against each mediating variable, control role and service role and the dependent variable, board effectiveness. This was completed for both mediators separately. At this stage, according to Baron & Kenny (1986), the mediating variables must affect the dependent variable and that the effect of the independent variable on dependent variable must be less than that in the second stage. In both models 1 and 2, the mediating variable, service role was not significantly related to the dependent variable, board effectiveness. Thus, the service role was not found to be a mediator of the relationship between the trust and board effectiveness. On the other hand, the other mediating variable, control role was significantly related to the dependent variable, board effectiveness (ß = 0.268, $p < 0.05$; ß = 0.323, $p < 0.05$). The results also show that the beta value for the independent variable, trust was lower when including the mediating variable, control role (0.490 < 0.622) and (0.379 < 0.518). This, thus meets the criteria for mediation following Baron & Kenny's (1986) causal step approach. Complementing this approach, the Sobel test was conducted to determine the significance of the mediated effect of trust on board effectiveness via the board control role. The result suggested that the control role was a significant mediator of the relationship between trust and board effectiveness at the five per cent level of significance ($z = 2.26 > 1.96$, $p < 0.05$). Together, these results suggest that the board control role mediates the relationship between trust and board effectiveness, but the board service role was not a mediator. This supports Hypothesis 13a, board trust is positively related to board effectiveness, and partially supports Hypothesis 13b, the relationship between board trust and board effectiveness is mediated by the board's control role and the board's service role.

Summary of Hypothesis Testing

Table 6-27. Summary of Hypotheses

Hypothesis	Result
H7a: Board control role is positively related to board effectiveness	Supported
H7b: Board service role is positively related to board effectiveness	Supported
H8a: Board cohesiveness has a curvilinear relationship with board effectiveness	Not supported
H8b: The relationship between board cohesiveness and board effectiveness is mediated by the board control role performance and service role performance	Supported
H9a: Communication quality is positively related to board effectiveness	Supported
H9b: The relationship between communication quality and board effectiveness is mediated by the board control role performance and service role performance	Supported
H10a: Board cognitive conflict is positively related to board effectiveness	Supported
H10b: The relationship between cognitive conflict and board effectiveness is mediated by the board control role performance and service role performance	Partly supported
H10c: Board affective conflict is negatively related to board effectiveness	Supported
H10d: The relationship between board affective conflict and board effectiveness is mediated by the board control role performance and service role performance	Partly supported
H11a: Board effort norms are positively related to board effectiveness	Supported
H11b: The relationship between board effort norms and board effectiveness is mediated by the board control role performance and service role performance	Supported
H12a: Board use of knowledge & skills is positively related to board effectiveness	Supported
H12b: The relationship between board use of knowledge & skills and board effectiveness is mediated by the board control role performance and service role performance	Partly supported
H13a: Board trust is positively related to board effectiveness	Supported
H13b: The relationship between board trust and board effectiveness is mediated by the board control role performance and service role performance	Partly supported

Relationship between Board Governance Processes, Board Structural Characteristics, Board Role Performance, and Board Effectiveness

The previous analysis has examined the impact of each board process in isolation and tested the mediated relationship between individual board processes and board effectiveness. However, the processes in the boardroom do not exist in isolation. The following section will, therefore, use a multiple regression analysis to examine whether the structural (i.e. control) variables or process variables provide a better explanation for board role performance and board effectiveness.

Table 6-28. Regression Analysis of Board Governance Processes, Board Structural Characteristics, Board Role Performance and Board Effectiveness

	Board Effectiveness	
	Model 1	Model 2
Board size	0.201	0.163
Inside-outside ratio	-0.299	-0.266
CEO-chair duality	0.195	0.120
Board shareholdings	0.028	0.044
Firm size	-0.145	-0.070
Cohesiveness		-0.023
Cognitive conflict		0.575**
Affective conflict		0.118
Effort norms		0.025
The use of knowledge & skills		0.101
Trust		0.109
Communication quality		0.082
Control role		-0.117
Service role		0.064
Adjusted R^2	0.047	0.480
F change	1.684	5.220**

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

Table 6-28 shows the relationship between all the board governance processes, control role performance, service role performance, and board effectiveness. Model 1 includes only the control variables, whilst model 2 includes the control variables, independent variables, and mediating variables variables. Model 1 with a very low adjusted R square of 0.047 and an insignificant F change of 1.684 shows that the control variables have no significant impact upon board effectiveness. Model 2 is significant, however, with an adjusted R square of 0.480 and a significant F change of 5.220. These results show that the board processes have more explanatory power of board effectiveness than board structural characteristics. Furthermore, Model 2 shows that the key variable explaining board effectiveness is cognitive conflict, i.e., critical debate between board members is key criterion of effective boards. These results for the service and control roles are not surprising given the preceding analysis that these are mediating processes through which board effectiveness is either enhanced or ameliorated.

Relationship between Board Governance Processes, Board Structural Characteristics, and Board Control Role Performance

Table 6-29 shows the relationship between all the board governance processes and the board control role performance. Model 1 includes the control variables, whereas Model 2 includes the control variables, and independent variables. Model 1 has an adjusted R square of 0.202 and a significant F change of 4.497. This is principally due to two significant structural variables, inside-outside ratio and board shareholdings, which are inversely related to the control role performance. Model 2 has a higher adjusted R square of 0.613 and a significant F change of 9.451. These results show that whilst board structural variables have an impact on the board control role performance, the board processes increase the strength of the model significantly. The results show that the key board process explaining the control role performance of the board is cognitive conflict.

Table 6-29. Regression Analysis of Board Governance Processes, Board Structural Characteristics and Board Control Role Performance

	Control Role	
	Model 1	Model 2
Board size	0.054	-0.057
Inside-outside ratio	-0.410**	-0.261*
CEO-chair duality	0.097	0.044
Board shareholdings	-0.274*	-0.265*
Firm size	-0.133	-0.006
Cohesiveness		-0.062
Cognitive conflict		0.568**
Affective conflict		-0.042
Effort norms		0.075
The use of knowledge & skills		0.127
Trust		0.058
Communication quality		-0.115
Adjusted R^2	0.202	0.613
F change	4.497**	9.451**

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

Relationship between Board Governance Processes, Board Structural Characteristics, and Board Service Role Performance

Table 6.30 shows the relationship between all the board governance processes and the board service role performance. Model 1 includes the control variables, whereas Model 2 includes the control variables and the independent variables. Model 1 has a very low adjusted R square of 0.008 and an insignificant F change of 1.116, whereas Model 2 has a much higher adjusted et al.,R square of 0.480 and a significant F change of 5.933. These results show that the board processes are more significant explanatory variables of board service role performance than board structural characteristics. Specifically, the key board process explaining the service role performance of the board is the use of knowledge and skills.

Table 6-30. Regression Analysis of Board Governance Processes, Board Structural Characteristics and Board Service Role Performance

	Service Role	
	Model 1	Model 2
Board size	0.103	0.073
Inside-outside ratio	-0.128	0.044
CEO-chair duality	0.178	0.100
Board shareholdings	-0.232	-0.219
Firm size	-0.274	-0.089
Cohesiveness		0.131
Cognitive conflict		-0.038
Affective conflict		0.085
Effort norms		0.250
The use of knowledge & skills		0.582**
Trust		0.142
Communication quality		-0.192
Adjusted R^2	0.008	0.480
F change	1.116	5.933**

*Note: The table shows the standardised coefficients (ß), the value of the adjusted R^2, and the value of the F change. The levels of significance are *<0.05; **<0.01*

6.4. SUMMARY OF CHAPTER 6

This chapter has presented the results of the hypotheses testing conducted to investigate the relationships between various board governance processes, board role performance and board effectiveness. The findings suggest that all the primary hypotheses between board governance processes and board effectiveness are supported with one exception. It could not be determined that cohesiveness has a curvilinear relationship with board effectiveness. The results suggested that the relationship could either be a linear one or a curvilinear one. In addition, the hypotheses regarding the mediating roles of board control role performance and board service role performance are either fully supported or partially supported in all cases. The final finding is that in examining the relationship between the board processes and the board control role performance one or two of the control variables, the inside ratio and the percentage of shares held by board members were found to be significantly negatively related to board control role performance. The next chapter will provide a discussion relating these findings to existing knowledge of board structure, board processes, and board outcomes.

CHAPTER 7:

DISCUSSION

7.1. Introduction

Chapter 6 reported the results of the testing of the hypotheses regarding the relationship between board governance processes (cohesiveness, communication quality, cognitive conflict, affective conflict, effort norms, trust, and the use of knowledge & skills) and board effectiveness mediated by the control role performance and the service role performance of the board. In Chapter 7, the findings will be discussed, identifying contributions to knowledge and outlining implications for board theory and board practice.

There are a number of implications for theory arising from the findings. First, the study shows that board processes are greater predictors of board service role performance and board effectiveness than board structural characteristics. Second, the study shows that both board processes and two agency theoretic predictors help explain board control role performance. Third, by examining multiple board mechanisms, this study provides a more comprehensive treatment of the behaviours that may influence board outcomes than previous research. Fourth, a new measure of board effectiveness is used. Fifth, the study finds that cognitive conflict is a key predictor of board control role performance and board effectiveness, whereas the use of knowledge & skills is a key predictor of board service role performance. Sixth, this study finds that boards primarily undertake two distinct roles, control and service. These findings have implications for board practice and board policy. This chapter will discuss these findings and will be structured as follows. In Section 7.2, the implications for theory outlined above will be discussed in detail. In Section 7.3, the implications for board practice and board policy will be highlighted. In Section 7.4, a summary of the findings will be presented.

7.2. Implications for Board Theory

The research findings have various implications for theories of corporate governance and our understanding of board effectiveness. First, the study shows that the identified board process variables are greater predictors of board effectiveness than board structural variables, although a small number of the structural variables affect board control role performance. Second, by examining multiple board mechanisms this study provides a more comprehensive treatment of board effectiveness than previous research. Third, this study provides a new measure of board effectiveness and finds that board control role performance and board service role performance are mediators of the relationship between the majority of board processes and board effectiveness. Fourth, the results show that cognitive conflict is a key determinant of board control role performance and board effectiveness, whilst the use of knowledge and skills is the primary explanatory variable of board service role performance. Fifth, the results show that boards primarily undertake two roles, control and service. Sixth, the self evaluation statement in the questionnaire suggests boards have different board governance orientations. The implications of each of these findings for board theory will be further explored in this section.

Process Versus Structure

The majority of previous board studies use input-output measures with inconclusive results. This study focused on the relationship between process-output relationships, but also examined inputs. The results show that board processes are greater predictors of board control role performance, board service role performance and board effectiveness than board structural characteristics. Specifically, when examined separately, six board processes (cohesiveness, communications quality, cognitive conflict, effort norms, the use of knowledge & skills, and trust) positively affect board service role performance and board effectiveness, whilst affective conflict negatively affects board effectiveness. This finding supports the findings of other more recent studies on boards of directors (Minichilli et al., 2009; Van den Heuvel et al., 2006; Van Ees et al., 2008; Zona & Zattoni, 2007), but also generates new insights. This research provides evidence that various board processes affect board effectiveness, via either, or both, the control role performance and the service role performance of the board.

The Relationship between Cohesiveness and Board Effectiveness

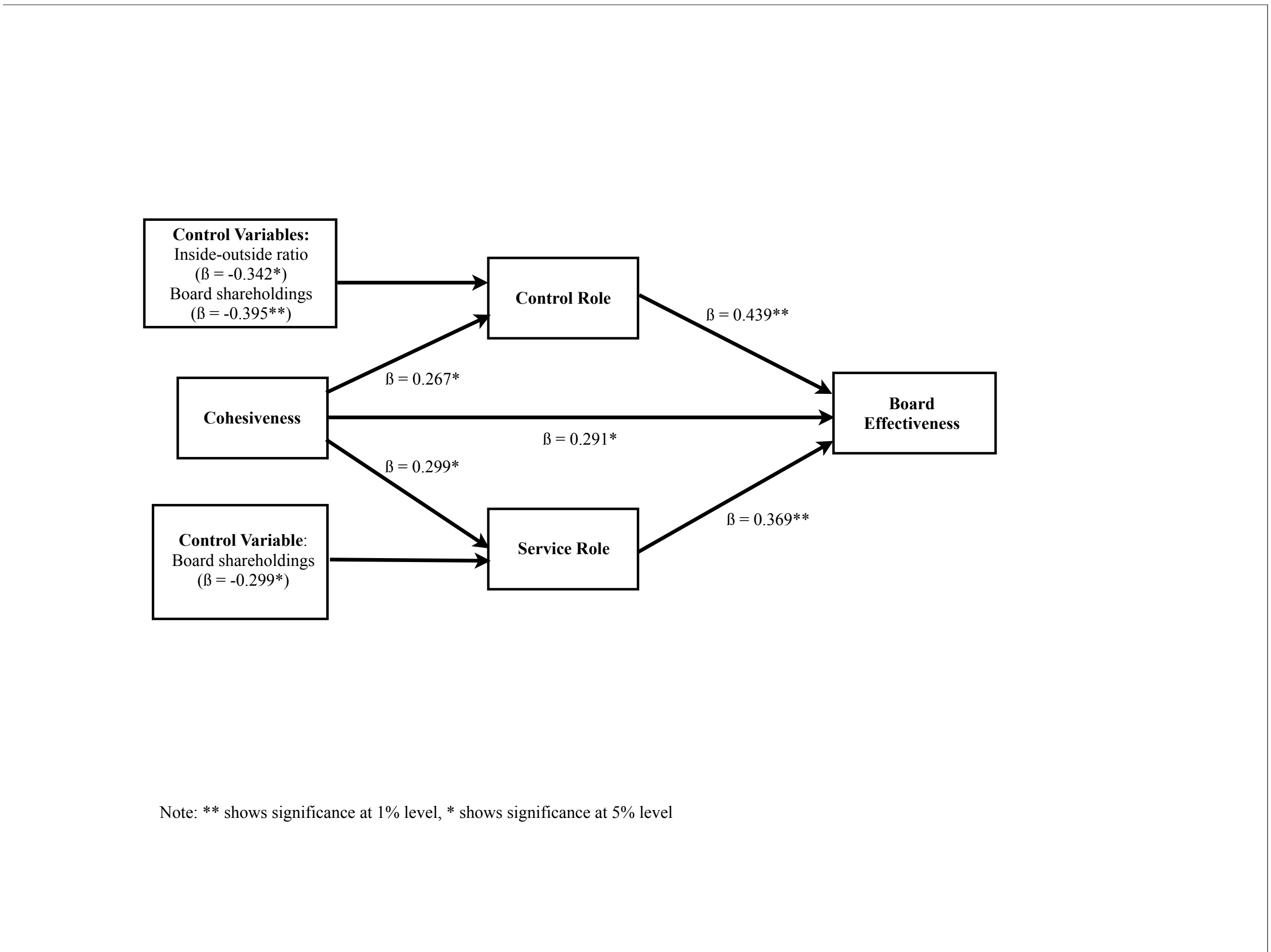

Figure 7-1. Model of the Mediated Relationship between Cohesiveness and Board Effectiveness

Figure 7-1. shows that both the control role performance and the service role performance mediates the relationship between cohesiveness and board effectiveness. There are a number of interesting dimensions to the findings of the relationship between cohesiveness and board effectiveness. First, the relationship between cohesiveness and board effectiveness was found to be both a linear one and potentially a non-linear one. The small team literature (Janis 1983; Mullen & Copper, 1994) suggests that the link between cohesiveness and team performance (or effectiveness) is not a simple one as very high levels of cohesiveness may be viewed as an antecedent of groupthink and thus lead to a reduction in the quality of decision-making. The results of this study do not fully support the view that very high levels of cohesiveness are detrimental to board effectiveness, but they are similar to the findings of Beal et al., (2003) who found a positive relationship between cohesiveness and small group performance. The results in this study may, however, be due to the relatively small sample and that the response to the cohesiveness measure had a low variance (=0.73).

Second, both the control role performance and the service role performance mediates the relationship between cohesiveness and board effectiveness. Previous board process research has usually defined board performance as its ability to carry out its various roles or tasks. Thus, to measure board performance researchers have simply measured the boards' ability to carry out its various roles or tasks (Minichilli et al., 2009; Van Ees et al., 2008; Zona & Zattoni, 2007). This research measures board role performance separately from board effectiveness and thus is able to show that board role (or task) performance is a mediator of the relationship between cohesiveness and board effectiveness. This study thus advances research on boards through the provision of evidence that board roles are mediators of the board processes-board effectiveness relationship. This is an important finding for theory development and its importance will continue to be shown in considering the relationship between other board governance processes and board effectiveness in the rest of this section.

Third, two of the control variables (insider ratio and proportion of shares held by the board) were found to negatively affect the boards' control role performance. These results are different to most of the previous studies examining the impact of board processes on board performance (e.g., Minichilli et al., 2009; Van den Heuvel et al., 2006; Van Ees et al., 2008; Zona & Zattoni, 2007). These findings are supportive of two agency theoretic recommendations for boards, that board performance is enhanced by more outside directors and where board members are more closely aligned to firm performance through ownership of board shares. However, whether the results show that simply increasing the proportion of outside directors improves board control role performance or that outside directors affect the cohesiveness of the board is unclear and would require further study. These results are replicated for other board processes and further discussion will take place during this section. Unique to cohesiveness, one control variable, the proportion of shares held by the board was negatively related to the service role performance of the board. This suggests board members with higher proportions of shares play less of a service role than those with a lower proportion. The shareholdings of board members may also affect the cohesiveness of the board more than for other processes. The other control variables (board size, inside-outside ratio, CEO-chair duality, firm size. were not found to affect the service role performance of the board for cohesiveness. For all the other board processes all the control variables were insignificant.

The Relationship between Communication Quality and Board Effectiveness

Figure 7-2. shows that both the control role performance and the service role performance mediates the relationship between communication quality and board effectiveness. The relationship between communication quality and board effectiveness has lower beta values of 0.453 when the control role performance is included and 0.447 when the service role performance is included, thus meeting the Baron & Kenny (1986) test for mediation.

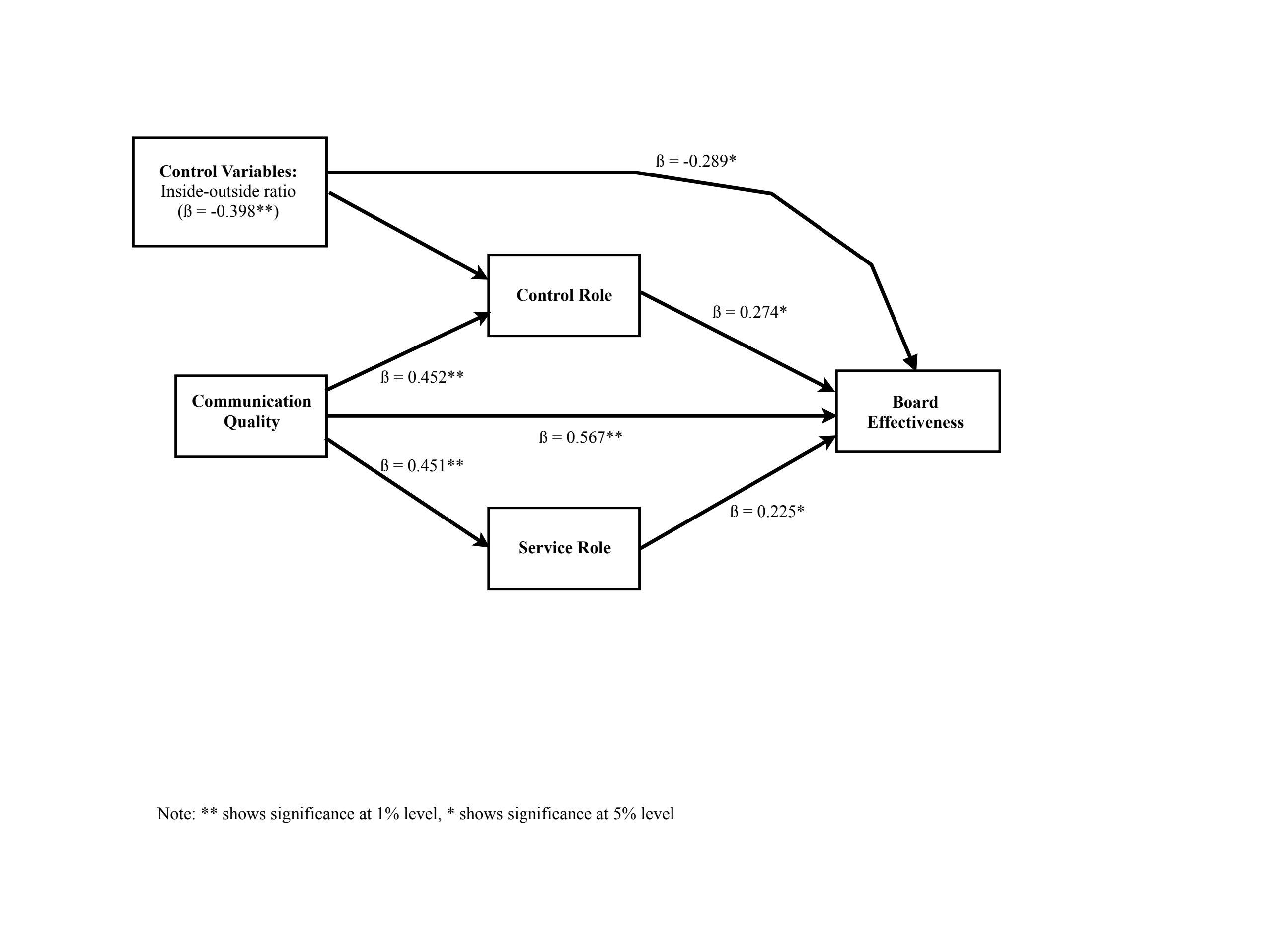

Figure 7-2. Model of the Mediated Relationship between Communication Quality and Board Effectiveness

The findings that good communication quality had a positive outcome for the boards' control and service role performance and board effectiveness is not surprising and supports previous research showing the benefits of good communications quality (Eisenhardt et al., 1997; Jehn, 1995; Maltz & Kohli, 1996; Massey & Dawes, 1997; Menon et al., 1999). This finding, whilst not unexpected, is a notable contribution to research on boards. Previous studies (e.g., Payne et al., 2009) have shown the benefits of good information for the effectiveness of boards, no study to my knowledge has examined the effects of communication quality. This finding highlights the importance of the quality of communications for the effective working of a board and suggests more work is required on the antecedents of communications quality is required in order to better understand the process.

A further finding of note with regard to the relationship between communications quality, board control role, and board effectiveness is the influence of the inside-outside ratio. The insider ratio was significantly inversely related to the board's control role performance and board effectiveness. This suggests boards with more outsiders better perform their control role tasks and are more effective. However, it is unclear without further study whether the insider ratio influences performance outcomes or communication quality itself.

The Relationship between Cognitive Conflict and Board Effectiveness

Figure 7-3. shows that the service role performance mediates the relationship between cognitive conflict and board effectiveness. The relationship between cognitive conflict and board effectiveness has a lower beta value ($\beta = 0.557$) when the service role performance is included in the model, thus meeting the Baron & Kenny (1986) criterion for mediation. Interestingly, the control role performance of the board was not found to be a mediating variable between cognitive conflict and board effectiveness although cognitive conflict does have a significant positive affect on the control role performance of the board. The results suggest that cognitive conflict has a direct affect on both the control role performance of the board and board effectiveness. The high beta value (> 0.6) suggests cognitive conflict is an important explanatory variable for board effectiveness and this particular finding will be discussed in more detail later in this chapter.

Similar to the cohesiveness result, two control variables: the insider-outsider ratio and proportion of shares held by the board, were found to be significantly negatively related to the control role performance of the board. This finding will be discussed in more detail later in this section.

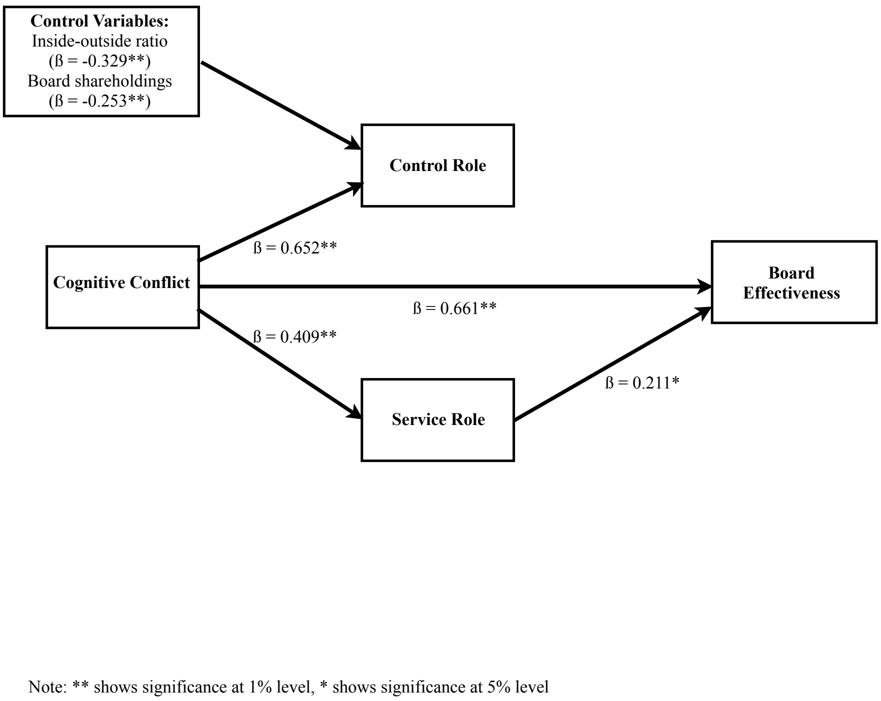

Figure 7-3. Model of the Mediated Relationship between Cognitive Conflict and Board Effectiveness

The Relationship between Affective Conflict and Board Effectiveness

Figure 7-4. shows that the control role performance mediates the negative relationship between affective conflict and board effectiveness. The relationship between affective conflict and board effectiveness has a lower absolute beta value (ß = -0.089) when the control role performance is included in the model, thus meeting the Baron & Kenny (1986) criterion for mediation. Interestingly, there was no relationship found between affective conflict and the service role performance of the board. Whilst it is expected that personal conflicts may impede a board's ability to undertake its control role, one would expect that such personal conflicts would similarly lessen the board's ability to undertake its service role (Amason, 1996; Jehn, 1997). The lack of a significant negative relationship between affective conflict and the service role of the board may be explained by an intervening variable influencing the emotions resulting from affective conflict as opposed to affective conflict itself. However, given that personal animosity is likely to make teams less effective the negative relationship between affective conflict and board effectiveness is an expected outcome and follows the findings of various team studies (De Dreu & Weingart, 2003; Langfred, 2007; Li & Hambrick, 2005).

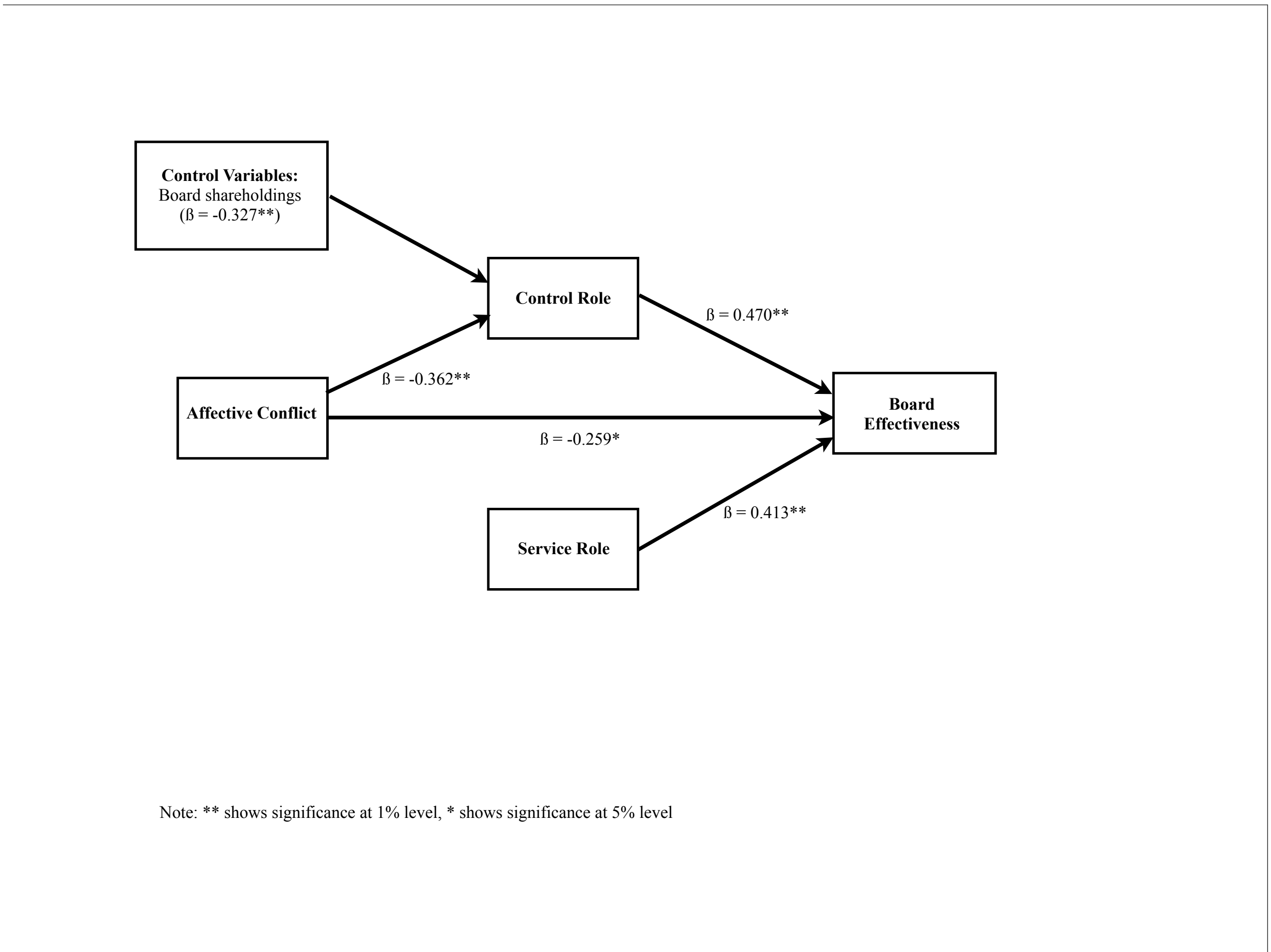

Figure 7-4. Model of the Mediated Relationship between Affective Conflict and Board Effectiveness

This research provides a unique contribution to research on boards in investigating both cognitive conflict and affective conflict, and in particular finding that they have distinctly different outcomes. Previous team studies have found that affective conflict is positively correlated with cognitive conflict and that higher levels of task-related (cognitive) conflict can lead to higher relationship (affective) conflict (De Dreu & Weingart, 2003). This study finds that cognitive conflict and affective conflict are distinct concepts and that they have significantly different outcomes. Previous studies on conflict also showed that they are distinctive (from factor analyses) but nevertheless correlated. For example Minichill et al., (2009) and Zona & Zattoni, (2007) argued that their possibly inconclusive results relating the cognitive conflict and board task performance could be explained because of the mitigating impact of affective conflict (which they did not measure). This study contributes to knowledge on boards by measuring cognitive conflict and affective conflict separately and finding that cognitive conflict enhances the service role performance of the board and board effectiveness, whereas affective conflict negatively affects the control role performance of the board and board effectiveness. This is an important finding for theory because it suggests that cognitive conflict and affective conflict are distinct concepts and that they have different outcomes.

An additional finding is that one of the control variables, the proportion of shares held by the board was inversely related to the control role performance of the board. This suggests that boards which hold higher proportions of shares are aligned to shareholders and thus do not require board members to actively control the actions of the executive (Himmelberg et al., 1999; Jensen & Murphy, 1990). This will be discussed further later in this section.

The Relationship between Effort Norms and Board Effectiveness

Figure 7-5. shows that both the control role performance and the service role performance mediates the relationship between effort norms and board effectiveness. The relationship between effort norms and board effectiveness has lower beta values of 0.302 when the control role performance is included and 0.321when the service role performance is included, thus meeting the Baron & Kenny (1986) test for mediation. The findings that higher levels of effort had a positive outcome for the boards' control and service role performance and board effectiveness supports the results of some prior studies (e.g., Minichill et al., 2010; Zona & Zattoni, 2007). However, this result is counter to the findings of Van Ees et al., (2008) who found that effort norms were not associated with board role performance. This difference may best be explained by the alternative definitions and measures of board role performance used in the two studies and/or by country differences. First, the different measures of board role performance. In their study, Van Ees et al., (2008) defined board role performance as encompassing two roles, monitoring and strategy. In this research, as discussed in Chapter 5 Research Methodology and Design, two board roles were found, control (or monitoring) and service. However, this difference is largely semantics in that the items used in the Van Ees et al., (2008) strategy role construct were similar to those used in the service role construct in this piece of research. However, there were additional items used in the service role construct in this thesis, thus there is no direct comparison and this may partly explain the different findings. Second, the findings may simply reflect country differences. The Van Ees et al., (2008) study was based on companies in the Netherlands whereas this study was in the United Kingdom. Such country differences may have an important effect, but different contingencies was not the focus of this study.

An additional noteworthy finding is that the insider ratio was significantly inversely related to the board's control role performance. This suggests that boards with more outsiders better perform their control role tasks and are more effective. However, similarly to the findings on previous board processes it is unclear without further study whether the insider ratio influences performance outcomes or effort norms itself.

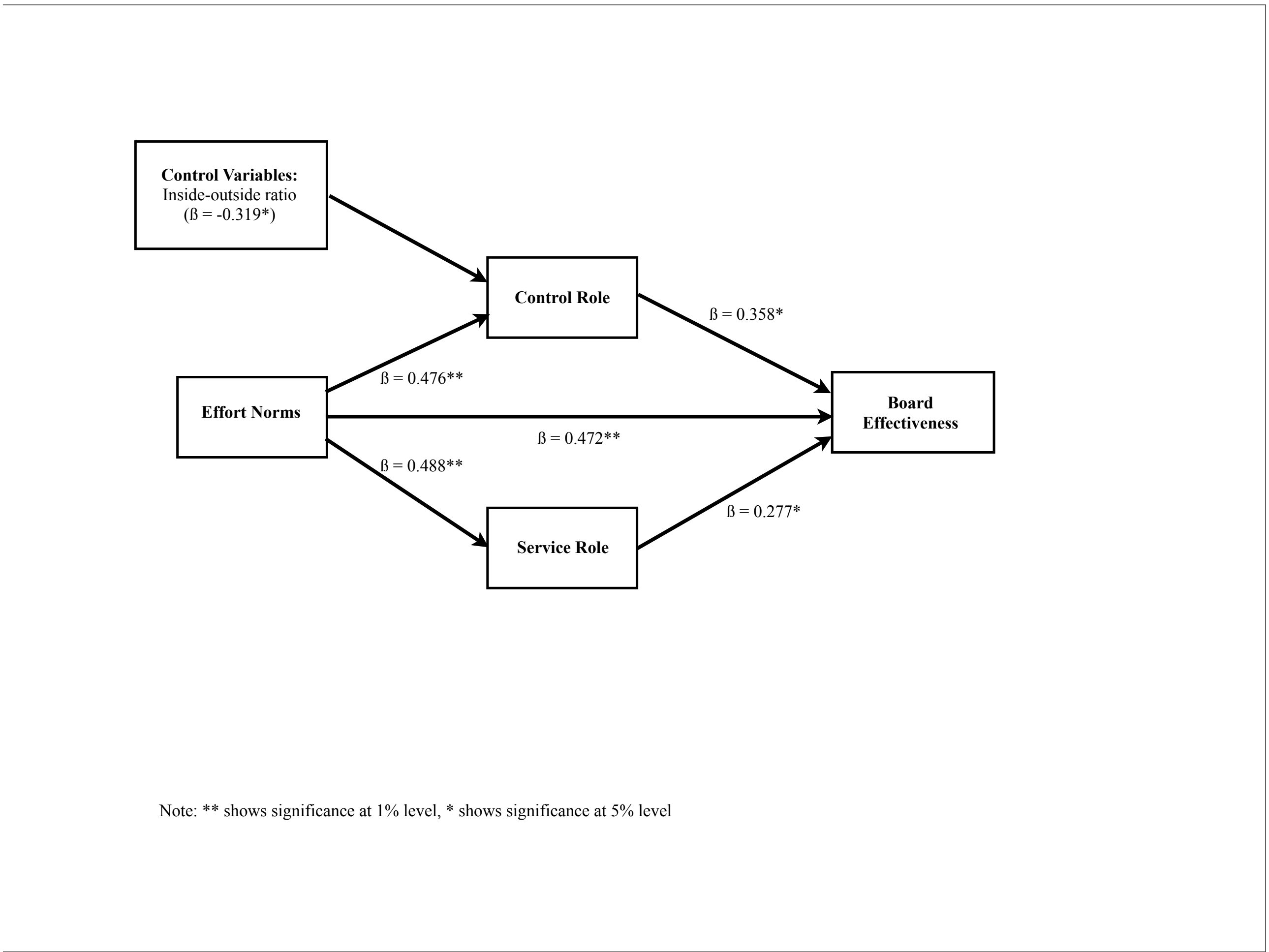

Figure 7-5. Model of the Mediated Relationship between Effort Norms and Board Effectiveness

The Relationship between The Use of Knowledge & Skills and Board Effectiveness

Figure 7-6. shows that the control role performance mediates the relationship between the use of knowledge & skills and board effectiveness. The relationship between the use of knowledge & skills and board effectiveness has a lower beta value (ß = 0.432) when the control role performance is included in the model, thus meeting the Baron & Kenny (1986) criterion for mediation. Interestingly, the service role performance of the board was not found to be a mediating variable between the use of knowledge & skills and board effectiveness although the use of knowledge & skills does have a significant positive affect on the service role performance of the board. The results suggest that the use of knowledge has a direct affect on both the service role performance of the board and board effectiveness. The high beta value (> 0.6) suggests the use of knowledge & skills is an important explanatory variable for the service role performance of the board and this particular finding will be discussed in more detail later in this chapter.

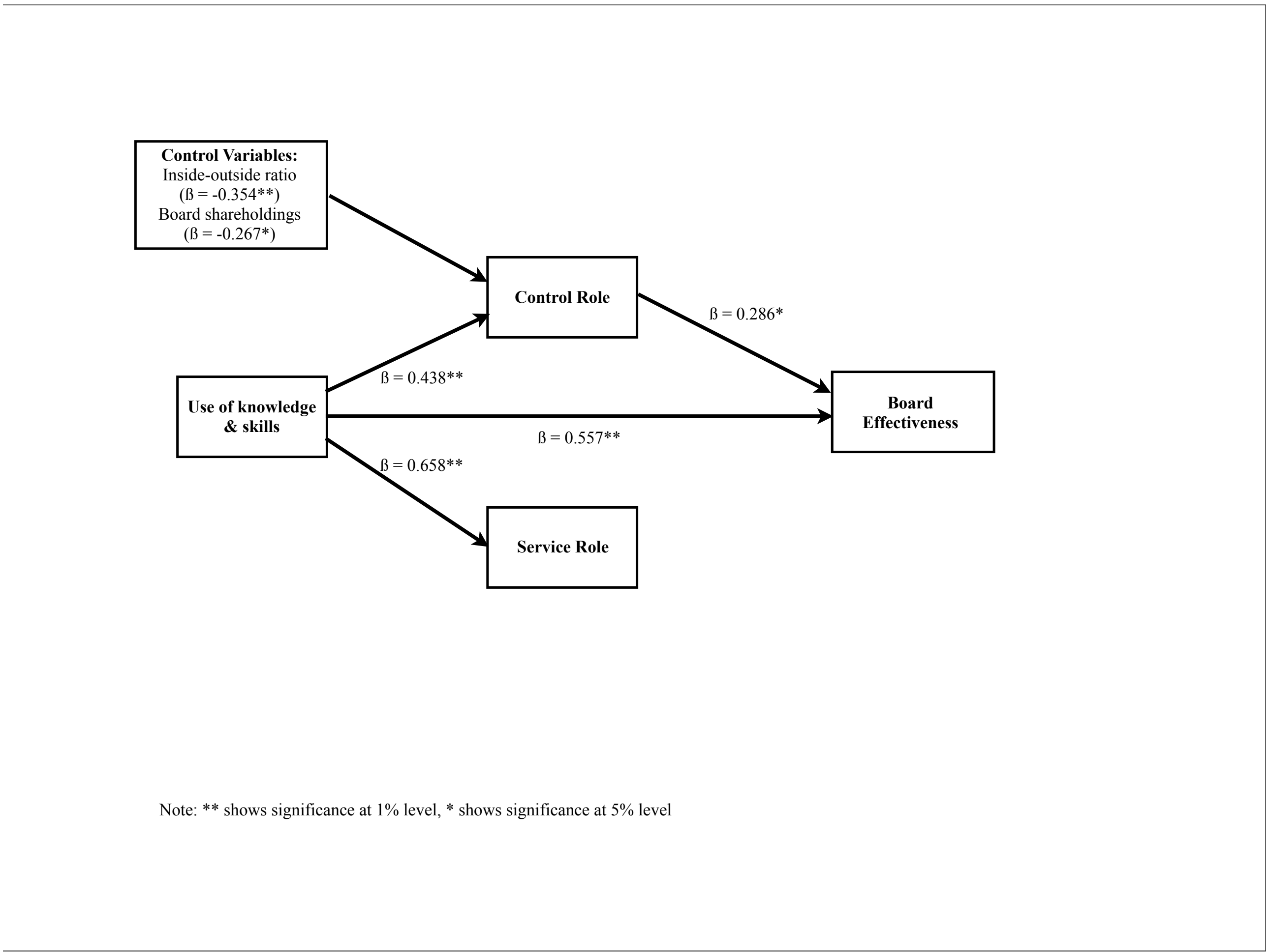

Figure 7-6. Model of the Mediated Relationship between The Use of Knowledge & Skills and Board Effectiveness

As well as the mediation affect of the control role performance on the relationship between the use of knowledge & skills and board effectiveness, it was also found that two control variables:

the insider-outsider ratio and the proportion of shares held by the board, were significantly negatively related to the control role performance of the board. This finding will be discussed in more detail later in this section.

The Relationship between Trust and Board Effectiveness

Figure 7-7. shows that the control role performance mediates the relationship between trust and board effectiveness. The relationship between trust and board effectiveness has a lower beta value (ß = 0.379) when the control role performance is included in the model, thus meeting the Baron & Kenny (1986) criterion for mediation. The finding that trust was positively related to the control role performance of the board is counter-intuitive. It would be expected that higher trust levels would negate the necessity for board members to actively control the actions of executives. A higher disposition to trust would lessen the need to control the actions of executives, whilst lower trust would likely to enhance the need for control mechanisms (Schoorman et al., 2007). However, this particular finding may suggest that trust is necessary for board members to rely on information provided by executives for carrying out control role tasks such as annual performance evaluations of the firm and of the board. Interestingly, the service role performance of the board was not found to be a mediating variable between trust and board effectiveness although trust does have a significant positive affect on the service role performance of the board. The results suggest that trust has a direct affect on both the service role performance of the board and board effectiveness.

These findings provide a useful contribution to the research in boards. No previous research to my knowledge has conceptualised trust as a board process. In their study, Van Ees et al., (2008) treated trust as a moderating variable between board processes and board role performance. This study found that trust is an important determinant of the board's control role performance, board service role's performance and board effectiveness. The finding that trust is important for board effectiveness is in line with similar findings from research into the importance of trust to team effectiveness (Costa, 2003; Gillespie & Mann, 2004; Lee, 2004). Given the findings that trust is important to board control role performance, board service role performance and board effectiveness, future studies of the antecedents of board trust would be useful for a fuller understanding of the workings of boards.

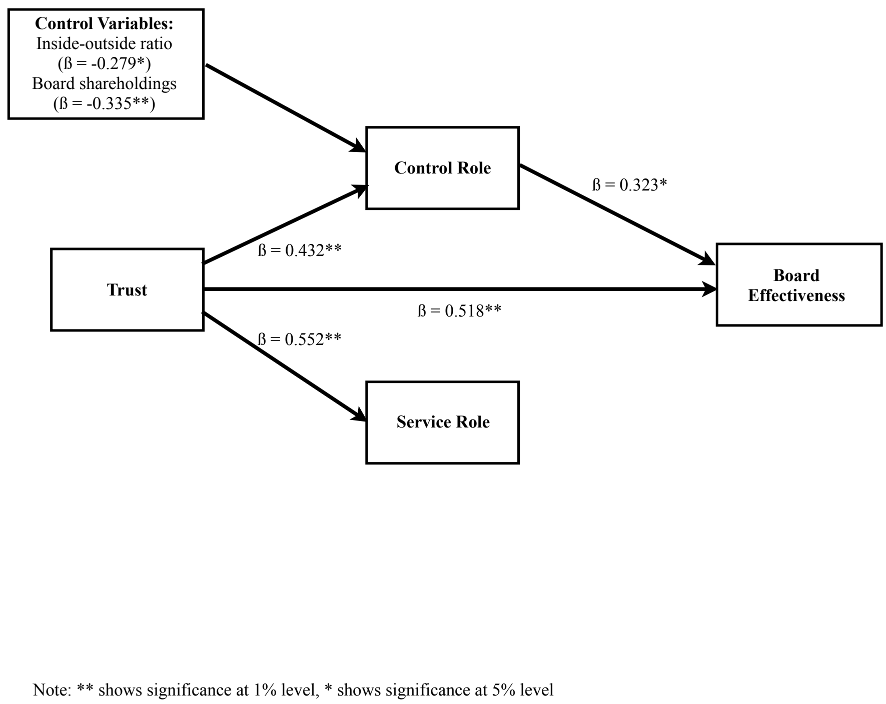

Figure 7-7. Model of the Mediated Relationship between Trust and Board Effectiveness

As well as the mediation affect of the control role performance on the relationship between trust and board effectiveness, it was also found that two control variables: the insider-outsider ratio and the proportion of shares held by the board, were significantly negatively related to the control role performance of the board. This finding will be discussed in more detail later in this section.

The Relationship between Board Processes, Board Structure, and Board Control Role and Service Role Performance.

This study advances knowledge about the factors that influence board effectiveness and the influences on the control role and service role of the board of directors in the UK. Many of the prior studies have been from Continental Europe or South East Asia (e.g., Minichilli et al., 2010; Wan & Ong, 2006; Zona & Zattoni, 2007), whilst there has, to my knowledge, been no empirical studies focussing on board processes and behaviours in the UK using quantitative data. The results discussed previously in this section show that board processes and behaviours are more important in explaining board effectiveness than board structural characteristics such as board size, CEO-Chair duality, inside-outside ratio, and proportion of shares held by board directors. These findings are similar to a number of non-UK studies (e.g. Minichilli et al., 2009; Van den Heuvel et al., 2006; Wan & Ong, 2005). These structural characteristics are those derived from agency theory and resource dependency theory. According to agency theory, board structure and executive compensation are key determinants for firm performance (Daily et al., 2003). Specifically, agency theorists suggests boards should have a majority of outside (non-executive) directors, and a separate CEO-Chair to perform the board's monitoring and control role (Fama, 1980; Fama & Jensen, 1983; Jensen & Meckling, 1976). In addition, agency theory also advocates that executives should be aligned to shareholders' interests through compensation packages tied to firm performance (Eisenhardt, 1989; Fama, 1980; Fama & Jensen, 1983; Jensen & Murphy, 1990). The importance of board structure is also recognised in resource dependency theory. According to resource dependency theorists, the primary role of the board is a service one linking the organisation with its external environment (Hillman & Dalziel, 2003). In fulfilling their service role, resource dependency theorists suggest board members provide resources, such as information skills, advice and counsel to management, access to key stakeholders, networking, and legitimacy, to a firm (Carpenter & Westphal, 2001; Gales & Kesner, 1994; Hillman et al., 2000; Pfeffer & Salancik, 1978). Critical to the board structure is that different directors are able to bring different resources to the organisation (Hillman et al., 2000). Thus, according to resource dependency, larger boards are better able to bring such resources (Hillman et al., 2000; Hillman & Dalziel, 2003).

Previous research has suggested that board structural variables have limited predictive power in explaining board role (or task) performance (e.g. Minichilli et al., 2009; Van Ees et al., 2008, Zona & Zattoni, 2007). This study does, however, find that two structural variables are significant in explaining the control role performance of the board. First, the inside ratio was found to be significantly negatively related to the control role of the board when examining the relationship between a number of the board processes and the control role of the board. This means boards with a higher proportion of insiders on the board are less effective in undertaking their control role. This suggests that boards with a higher proportion of outside (non-executive) directors are more active in their control role activities. This is a finding in line with the predictions of agency theory (Fama, 1980; Eisenhardt, 1989; Jensen & Meckling, 1976) and also of recent empirical research from Minichilli et al., (2010). Given the relatively limited support for the benefits of outside directors in previous empirical work, this result may be particularly applicable to the UK with the strong emphasis in the codes on good governance that have a longer history in the UK than in other countries (Minichilli et al., 2009; Roberts et al., 2005). The finding may also be specific to the unitary board structure that is the dominant type in the UK, as opposed to continental Eurpope where dual-tiered structures are the norm. The policy implications of this finding will be discussed later in this chapter. Second, the proportion of shares held by the board of directors was also found to be significantly negatively related to the control role of the board when examining the relationship between a number of the board processes and the control role of the board. This finding is also supportive of agency theory predictions. Higher levels of share ownership by executive board members is less likely to require board members to actively control the actions of the executive as they are aligned to act in the interests of shareholders through compensation packages consisting of shares and share options (Daily et al., 2003; Eisenhardt, 1989). This result is somewhat contrary to the results of Minichilli et al., (2009) who found that board shareholding was positively related to networking, one of the service role tasks of the board and not related to the control role tasks of the board. One explanation may simply be the different way board shareholding was measured. Minichilli et al., (2009) measured board shareholdings as the number of board members with shareholdings over the total number of shareholdings, whereas this study measured board shareholdings as the shareholdings of directors as a percentage of total shareholdings in the company. An alternative rationale may be the finding is specific to the UK and this requires further research to confirm, or otherwise, any country specific differences. Given the possibility that the findings may suggest some country specific differences this has significant implications for board theory. There is powerful support from the recent cross-country study of factors influencing board task (or role) performance of Minichilli et al., (2010) for more cross-country studies in order to better understand the impact of the national context. They found that there were considerable differences in board task (role) performance across the two countries in the study, Italy and Norway and that national context moderates the relationship between board processes and board performance (Minichilli et al., 2010). There are still considerable similarities between Italy and Norway (e.g. small, family-owned businesses) and hence it is even more imperative to have studies in Anglo-Saxon contexts like this UK focused study.

The analysis showed that the insider-outsider ratio and board shareholdings were negatively related to the control role of the board, but the extent to which more outsider directors on the board enhances process variables, such as the knowledge and skills, cognitive conflict and effort norms, that influence the control role performance of the board is unclear from this research. It is possible that the ratio of inside to outside directors and other board structural characteristics may influence the group dynamics of boards and could be antecedents of some process variables. A dynamic capabilities approach (Teece et al., 1997) would enhance our understanding of the contribution of individual board members and the board as a whole to enhancing the control role (and service role) performance of the board.

The findings that two board structural characteristics have some predictive powers in explaining board control role performance has some similarities to the research of Minichilli et al., (2009), although the actual board structural characteristics that influence the control role performance of the board are different in the two studies. Minichill et al., (2009) found that board size was a factor in predicting board control role performance, whereas this study found no significant result for board size.

Whilst, this study finds that two of the board structural characteristics recommended by agency theory enhance the control role performance of the board, there is no support for the benefits of CEO-chair duality. This lack of support for the benefits of CEO-chair duality is similar to the finding of Brickley et al., (1997). This result may support the stewardship theorists who advocate the benefits of a unitary leadership structure (Davis et al., 1997). However, given that the overwhelming majority of companies in the sample had a separate CEO-chair it is unclear whether the results are supportive of stewardship theorists. They do not, however, support agency theory's recommendation of a separate CEO-chair. Therefore, overall the support for agency theory predictions is mixed.

Whilst there was some evidence that board structural characteristics have some effect on board control role performance, they had little predictive power in understanding how the board performs its service role tasks and board effectiveness, and this is similar to the findings of other research (Finkelstein & Mooney, 2003; Van Ees et al., 2008; Zona & Zattoni, 2007). The analysis shows that board processes are far more powerful predictors of service role performance and this finding replicates that found in prior empirical research (e.g. Minichilli et al., 2009; Van den Heuvel et al., 2006; Zona & Zattoni, 2007).

Multiple Mechanisms of Board Effectiveness

This study finds that, when examined separately, six board processes (cohesiveness, communications quality, cognitive conflict, effort norms, the use of knowledge & skills, and trust) positively affect board effectiveness, whilst affective conflict negatively affects board effectiveness. By examining these seven board processes, this study provides a more comprehensive treatment of the behaviours that may influence board outcomes than previous research which examined sub-sets of the multiple mechanisms identified in this research (e.g., Minichilli et al., 2009; Van den Heuvel et al., 2006; Wan & Ong, 2005). In addition, with the exception of affective conflict all the board processes affect the control role of the board and the service role of the board. Affective conflict was found to negatively affect the control role of the board, but not to have a significant affect on the service role of the board. The possible reasons for this finding were discussed in the previous section.

The results from this study examining multiple mechanisms to explain board effectiveness provides important findings for board research. A unique contribution of this research is the finding that the control role and/or the service role of the board mediates the relationship between a number of board processes and board effectiveness. Mediation is about processes that strengthen relationships between variables (Baron & Kenny, 1986). Previous research has used board role performance as a dependent variable. Uniquely, this study finds that board role performance mediates the relationship between board processes and board effectiveness. This has important implications for future research on boards. It suggests that board role performance may be a means in which boards can add value to their organisation. There are three specific findings of note with regard to the mediation effect. First, both the control role and the service role of the board mediate the relationship between cohesiveness and board effectiveness, communication quality and board effectiveness, and effort norms and board effectiveness. Second, the service role of the board mediates the relationship between cognitive conflict and board effectiveness. Third and finally, the control role of the board mediates the relationship between affective conflict and board effectiveness, the use of knowledge & skills and board effectiveness, and trust and board effectiveness. Performing control roles and services are processes that lead to board effectiveness.

Measure of Board Effectiveness

The results from this study provide new contributions to the research on board effectiveness. Prior studies have suggested that board processes affect board role or task performance and used these as proxies for board effectiveness (Gabrielsson & Winlund, 2000; Minichilli et al., 2009; Van deb Heuvel et al., Zona & Zattoni, 2007). This study used the survey data to measure board effectiveness through a four-item construct drawn from existing literature (Aguilera, 2005; Bradshaw et al., 1992; Cornforth, 2001; Denis & McConnell, 2003; Green and Geisinger 1996; Huse 2005; and Langevoort, 2001), in addition to measuring the board control role performance and the board service role performance. The four-item measure was averaged into a general “effectiveness’ scale with a Cronbach alpha equal to 0.84. This measure is different to the measure of board effectiveness developed simultaneously by Payne et al., (2009) in that the items are more about the contribution of the board to performance of the firm in general as opposed to the more specific assessment of board roles (or tasks) in the Payne et al., (2009) measure. In addition the measure of board effectiveness was validated by linking it to firm performance and found a significant positive relationship. Thus, this measure of board effectiveness is valid for assessing the value creating potential of boards. This direct measurement of board effectiveness is an original contribution to the research on boards of directors.

Role of Cognitive Conflict and The Use of Knowledge and Skills

When examining the relationship between all the independent variables, mediating variables and dependent variables in a multiple regression, this study finds that cognitive conflict has a strongly, significant positive impact on board effectiveness. The concept of cognitive conflict highlights the importance of critical debate in improving team decision-making. Team members' disagreement allows them to see different viewpoints and enable alternative perspectives to better inform debates, and enhance the quality of decisions (Amason, 1996; Amason & Sapienza, 1997; Eisenhardt et al., 1997). This suggests that the most important factor in explaining board effectiveness is critical debate and implicitly shows that the concept of groupthink is anathema to board effectiveness. This has implications for the composition and the working style and development of boards. Boards require an environment where critical debate is encouraged. The implications of this finding for board policy and practice will be discussed in more detail later in this chapter. Similarly, critical debate has a positive impact on the board's control role when examining the relationship between the independent variables and the hypothesised mediators. These results are in line with a number of previous studies, according to which one of the most important antecedents of board role performance and board effectiveness is the presence of a challenging boardroom environment, characterised by open and constructive debate among inside and outside board members (Finkelstein & Mooney, 2003; McNulty & Pettigrew, 1999; Minichilli et al., 2009; Roberts et al., 2005).

An additional feature of the importance of cognitive conflict is the lack of association between cognitive conflict and affective conflict. Some researchers that have found cognitive conflict not to affect the control role or service role performance of the board have argued that the effect of content on performance outcomes may be ambiguous due to the dangers of task related conflict spilling over into personal issues that arouse negative emotions Zona & Zattoni, 2007). These negative emotions can lead to positive aspects of task related conflicts being offset with adverse performance outcomes (Jehn, 1995; Zona & Zattoni, 2009). This research, however, finds that the positive aspects of conflict much outweigh the negative dimensions. This shows that conflict may be managed and thus has considerable potential benefits to enhancing board effectiveness.

A further finding when including all independent and mediating variables was that the use of knowledge and skills has a positive impact on the board's service role. This result is unsurprising as maximising the benefits of the service role tasks of the board, including the provision of advice, mentoring and networking, requires the optimal use of board members knowledge and skills (Forbes & Milliken, 1999). The results from this study implicitly suggest that there was the presence and use of the knowledge and skills suitable for the board to effectively perform their service role, i.e. board members have a range of functional area knowledge and skills and firm-specific knowledge and skills that enable boards to provide advice, act as mentors and help build network relationships (Forbes & Milliken, 1999). Given the strength of these findings, further research may seek to better understand the combinations of knowledge and skills that are critical to service role performance and the mechanisms by which these are activated, drawing perhaps on resource-based and dynamic capabilities perspectives.

Board Roles

As reported in Chapter 6: Data Analysis: The Measurement Model, the factor analysis of board roles showed that there were two primary roles undertaken by the board. These were identified as the control role and service role of the board. As reported in Chapter 4: Model and Hypotheses Development, there is general consensus in previous research surrounding the control or monitoring role of the board. However, there is considerable divergence with regard to the other roles of the board (Pearce & Zahra, 1992; Johnson et al., 1999; McNulty & Pettigrew, 1999; Ruigrok et al, 2006; Stiles, 2001; Van den Heuvel et al., 2006; Wan & Ong, 2005; Zona & Zattoni, 2007). This is primarily the result of definitional overlap and conceptual ambiguity. For example, in Zona & Zattoni's (2007) study, the service role construct employed uses questions that are found in the strategy role construct employed by Wan & Ong (2005). Further, Minichilli et al., (2009) divided the strategy role of boards in two, strategy control and strategic participation. The former was defined as one of three control tasks undertaken by the board, whereas the latter was defined as one of three service tasks undertaken by the board (Minichill et al., 2009). Various roles identified within the literature include resource dependency, networking, service, and strategy (Van den Heuvel et al., 2006; Wan & Ong; Zona & Zattoni, 2007). The findings in this study are supportive of the board carrying out two distinct roles, control and service. This result is similar to that of Minichilli et al., (2009) in finding the strategy role of the board can be viewed as part of the control role or the service role of the board and not a distinct one in itself. Specifically, the strategy item in the service role construct related to the involvement of board members in strategic decisions. Thus, in common with calls from Pugliese et al., (2009) this finding leads to a suggestion that there is a need for more research that investigates the board's strategic involvement and for the development of better measurements. This findings on board roles here, suggests future studies should concentrate on two primary roles of the board, control and service, but also that there is further theoretical and empirical research specifically examining the board's involvement in strategic decision-making. Crucially, this finding suggests that to enhance our understanding of what makes boards effective it is important to move beyond definitional and conceptual ambiguity, especially when measuring board effectiveness.

Board Governance Orientation

The previous discussion identifies the substantive findings and theoretical contributions emanating from this study. However, an additional finding is worthy of note. This relates to the proposed new construct in board research, board governance orientation. As reported in Chapter 4: Model and Hypothesis Development, board governance orientation was a concept drawn from four existing board theories: agency theory, resource dependency theory, stakeholder theory, and stewardship theory. It was hypothesised that firms would have different board governance orientations and additional hypotheses were made that different board governance orientations would have a differential impact on board control role, board service role, and board strategy role performance. There were two ways in which board governance orientation was measured in the survey: a) through orientation items, and b) self-typing statements to provide cross checks for the items. The self reporting statements in the survey suggested that different board governance orientations exist with 40% of the respondents identifying a stewardship orientation, 25.7% identifying an agency orientation, 12.9% identifying a stakeholder orientation, and 20.3% identifying a resource dependency orientation. However, as reported in Chapter 6: Data Analysis: The Measurement Model, testing of the hypotheses proved impossible. A factor analysis of the Board Governance Orientation showed that some of the identified factors lacked theoretical and conceptual clarity. In addition, a reliability analysis showed that only two of the four proposed board governance orientations (resource dependency orientation and stakeholder orientation) were reliable constructs.

Given the findings from the self-reporting statements of the contention that firms have different board governance orientations it is interesting to examine why the factor analysis provided no clear results and why only two of the constructs were reliable. There are two possible explanations for these results. First, the theoretical underpinning of the constructs requires further work. However, given that respondents suggest that boards do have different orientations and all four suggested were identified by some respondents there appears some support empirically for the theoretical proposition that boards have different governance orientations. A second explanation would relate to the measurements employed. The questions in the survey were drawn from existing literature, but given that the agency and stewardship orientation items provided low Cronbach Alphas in assessing their reliability, there would appear to be an issue with the items on these two particular orientations. This could have arisen for a number of reasons upon which one can only speculate. One, is that as agency theory and stewardship theory are often perceived as being at opposite ends of the organisational theory spectrum, particularly in terms of behavioural assumptions, that the questions were seen to be about behaviours rather than orientations. Two, the questions were insufficiently clear for the respondents, although the pilot test of the survey did not pick up any issues with questions. Three, the ordering of the questions was such that the stewardship items immediately followed the agency items and this was not helpful in identifying separate constructs.

Overall, there was some evidence that boards have different governance orientations, but for the reasons identified it proved impossible to test this and to examine whether different governance orientations lead to different board outcomes. It is an area worthy of future research, but it requires greater thought on the theoretical issues, and more critically on the measurement issues.

7.3. Implications for Board Practice and Policy

The empirical findings also have implications for board practice and policy. First, the important contribution played by board processes to improving board control role performance, board service role performance and board effectiveness has implications for the dynamics and composition of the board. The ability of a board to work as team is critical to board effectiveness, but this means boards need to pay close attention to the ability of board members to work in an open, constructive manner, that is board members must be willing to take on board different opinions and to work together for the benefit of the organisation. This has important implications for the nomination and selection committees of boards. Characteristics of openness, willingness to engage in critical debate, the ability to take account of others' viewpoints would appear to be critical to boards' effectiveness and thus these are the person characteristics that selection committees should be looking for in appointing new directors. The finding that boards with more outside directors better perform their control role also suggests selection committees should pay attention to the balance of outside and inside directors on the board. However, given that the ratio of insiders to outsiders had no effect on the service role performance or much to board effectiveness the person characteristics appear more important than whether the board structure favours a balance of outside directors. The additional finding that the use of knowledge and skills was instrumental in explaining the service role performance of the board also has implications for board selection. Boards require a diverse range of knowledge and skills and thus in getting the right balance on the board, selection committees need to undertake an audit of existing members skills and knowledge before looking for new board members. These findings support the contention of McNulty et al., (2005) that it is necessary to go beyond simply looking at matters of the composition of the board in terms of the independence of the board to the composition in terms of person characteristics that lead to open, and constructive debate in the boardroom. In addition, this study found that the mere presence of knowledge and skills alone are not sufficient, they need to be used. The implication for boards is that they need to create mechanisms and opportunities for this to happen through for example, board evaluations and board development programmes.

Second, the results of this study identified two particular processes that were vital to the effectiveness of boards. This has implications for the workings of the board and in particular the role of the board chairperson. Cognitive conflict was found to be very important to the control role performance of the board and to board effectiveness. The willingness and ability of board members to engage in critical debate, to take on different viewpoints may lead to higher levels of investigation helping boards make better decisions. The findings suggest task related disagreements are beneficial to better board level decision-making and to better control of the executive. This result suggests board chairs need to create an open atmosphere where differences of view are allowed to be expressed and an environment to enhance the effective operational dynamics of the board. It also requires that the chairperson ensures that all the necessary information upon which such constructive debate is available to board members with sufficient time for the careful scrutiny that can lead to open dialogue and disagreement. An annual review of board performance may contribute to better group dynamics through a greater understanding of individuals contribution to board effectiveness.

The use of knowledge and skills was shown to be critical to the service role role performance of the board. It is thus important that board chairs ensure those directors with specific expertise are involved in all board discussions and decisions where their knowledge and skills are able to be best utilised. This also may have implications for leadership processes and behaviours inside the board room and to the concept of 'shared leadership' (Vandewaerde et al., 2011). This means to take advantage of members' different knowledge and skills board chairs should consider undertaking an annual audit of members' skills and knowledge to identify gaps and look to see how such gaps can best be filled. This may mean new members being brought onto the board or that existing members undergo relevant training to enhance their individual contribution to board effectiveness.

Third, the empirical findings have implications for board compensation. The results show that board shareholdings were inversely related to the control role of the board. This may mean that higher share ownership of board members creates an alignment to the shareholders interests and therefore do not actively need to control the actions of the executive. However, this could also mean that giving board members shares as part of their compensation actually lessens their attention to their control role, which is somewhat counter-intuitive. However, this may depend on the actual level of share ownership that is required to have a controlling interest in the firm. For boards, this has implications for the role of remuneration committees in ensuring board share ownership schemes enhance control role performance of the board and align the interests of board members and shareholders. In this sense, what may be key is the percentage of board members' wealth that is at stake in ensuring the firm makes decisions with appropriate balance of risks (O'Byrne, 2001; Nyberg et al., 2010).

Finally, the empirical findings have implications for corporate governance policy. Existing codes of governance (e.g. UK Combined Code) place great emphasis on board structures and the importance of board independence. These results suggest that whilst recommendations on minimum numbers of outside (non-executive) directors should become mandatory rather than optional codes must also recognise the need for boards to engage in critical debate and for such debate to be made transparent possibly through reporting procedures. With a diverse range of knowledge and skills also being important, policy makers also need to be cognisant of the need for boards to make the range of skills and knowledge of board members transparent for stakeholders. This could mean that policy should require companies to undertake annual audits of board members and to publish this information.

7.4. Summary of Contributions to Knowledge

There are a number of new contributions this research makes to knowledge on boards of directors. First, the control role performance and the service role performance are found to be mediators of the relationship between a number of board processes and board effectiveness. There are three specific findings of note with regard to the mediation effect. One, both the control role and the service role of the board mediate the relationship between cohesiveness and board effectiveness, communication quality and board effectiveness, and effort norms and board effectiveness. Two, the service role of the board mediates the relationship between cognitive conflict and board effectiveness. Three, board processes influence board effectiveness via the performance of the control and service roles of the board.

The second major contribution is the examination of a more comprehensive set of mechanisms influencing board effectiveness than has been hitherto undertaken. An increasing number of empirical studies have examined a smaller set of mechanisms, but this research by investigating a broader range of processes has been able to identify the critical importance of cognitive conflict to the board's control role performance and board effectiveness and that of the use of knowledge and skills to the board's service role performance.

The third major contribution is the use of a new measure of board effectiveness. The four item construct measures board effectiveness using more general questions about the performance of boards than the measure recently used by Payne et al., (2009).

The final contribution is that this is one of the first empirical studies examining board processes and board structures and their respective impact on board effectiveness using data collected in the UK. As various authors suggest in order to better understand the workings of board of directors, greater cross-country comparison is required and this research adds to the studies that have taken place in Continental Europe and South-East Asia (Huse, 2007; Minichilli et al., 2009; Minichilli et al., 2010; Pugliese et al., 2009; Wan & Ong, 2005).

CHAPTER 8:

CONCLUSION

8.1. Introduction

This research had a number of objectives. Through a thorough review of the literature a model was developed and tested to investigate the factors influencing board effectiveness. To test the model and hypotheses, data was collected using a postal survey of board chairpersons in UK listed companies. Analysis of this data has led to a number of important findings which increase our knowledge of the antecedents of board effectiveness, an area many board researchers have been calling for in recent years (Huse, 2005; Minichilli et al., 2009; Pye & Pettigrew, 2005; Roberts et al., 2005). This chapter will provide a summary of the research conclusions, an outline of the research's contribution to knowledge, an identification of the limitations of this study, and an outline of future areas of research.

8.2. Conclusions of the Research

A detailed literature review exploring the research on boards suggested that there is limited understanding of the factors explaining board effectiveness. One of the stated aims of this study was to investigate these factors in order to add to knowledge and to identify how boards may help to add value to a company. From this literature review, a model and hypotheses were developed to examine the relationships between board governance orientation, board governance processes, board role performance, and board effectiveness. To be able to test the veracity of the model, data were collected through a postal survey of 1665 board chairpersons of UK listed companies, drawn from the Hemscott Company Guru database. Two of these concepts, board governance orientation and board effectiveness were thought to be new contributions to the corporate governance literature. As such, instruments were developed through a review of the literature and items included in the questionnaire with existing items used for the other constructs in the model. The survey was pre-tested by five current board directors and minor amendments were made to the wording of some of the questions.

The data, obtained through the postal questionnaire, pertaining to the new concepts, board governance orientation were subject to a factor and reliability analysis. This, however, provided no meaningful results. Reliability analysis suggested two of the board governance orientation constructs, resource dependency orientation and stakeholder orientation were reliable with Cronbach Alphas greater than 0.7. However, the other two constructs, agency governance orientation and stewardship governance orientation were found to have low Cronbach Alphas and thus not reliable. Whilst the self-reporting statement in the survey suggested boards do have four different orientations, this reliability issue and the disappointingly low response rate (74 usable responses, 4.64%) meant that the hypotheses relating to board governance orientation could not be tested. The reasons why this new concept was not found to derive reliable results was discussed in detail in Chapter 7 Discussion, but briefly can either be due to theoretical issues with the concept or measurement issues. This meant that the original model was amended to drop the board governance orientation concept. Consequently, it was not possible to test hypotheses 1 - 6 inclusive.

Factor analysis was also conducted on the board role performance items and this showed that there was a two-factor solution. The items emerging from the factor analysis suggested boards carry out two primary roles, control and service. This finding is in line with recent empirical work carried out by Minichilli et al., (2009). Reliability analysis on the control and service roles demonstrated that the constructs were reliable. The board governance processes (cohesiveness, communication quality, cognitive conflict, affective conflict, effort norms, trust, and the use of knowledge and skills) using existing validated items were subject to reliability test and all proved reliable. Finally, the second new concept, board effectiveness was found to be reliable with a four-item instrument.

Following ensuring the reliability and validity of the revised measurement model, hypothesis testing of the remaining hypotheses 7 - 13 was conducted using regression analysis. The hypotheses relating to the mediating impact of the strategy role of the board were also dropped given the factor analysis showed that the board undertakes two primary roles, control and service. In order to test the hypotheses relating to the mediating effect of the board control role performance and the board service role performance, the method proposed by Baron & Kenny (1986) was followed along with the application of the Sobel Test to check for the significance of the Baron & Kenny (1986) method, similar to the approach of De Jong & Elfring (2010). Of the remaining hypotheses, all but one were accepted or partially accepted at the 5% significance level. Specifically, the following hypotheses were deemed to be accepted.

Hypothesis 7a: Board control role performance is positively related to board effectiveness.

Hypothesis 7b: Board service role performance is positively related to board effectiveness.

Hypothesis 8b: The relationship between board cohesiveness and board effectiveness is mediated by the board control role performance and the board service role performance.

Hypothesis 9a: Communication quality is positively related to board effectiveness.

Hypothesis 9b: The relationship between communication quality and board effectiveness is mediated by the board control role performance and the board service role performance.

Hypothesis 10a: Board cognitive conflict is positively related to board effectiveness.

Hypothesis 10c: Board affective conflict is negatively related to board effectiveness.

Hypothesis 11a: Board effort norms are positively related to board effectiveness.

Hypothesis 11b: The relationship between board effort norms and board effectiveness is mediated by the board control role performance and the board service role performance.

Hypothesis 12a: Board use of knowledge and skills is positively related to board effectiveness.

Hypothesis 13a: Board trust is positively related to board effectiveness.

In addition, the following hypotheses were partially accepted.

Hypothesis 10b: The relationship between board cognitive conflict and board effectiveness was mediated by the service role performance of the board, but not by the control role performance of the board.

Hypothesis 10d: The relationship between board affective conflict and board effectiveness was mediated by the control role performance of the board, but not by the service role performance of the board.

Hypothesis 12b: The relationship between board use of knowledge and skills and board effectiveness was mediated by the control role performance of the board, but not by the service role performance.

Hypothesis 13b: The relationship between board trust and board effectiveness was mediated by the control role performance of the board, but not by the service role performance.

The one hypothesis that could not be accepted was Hypothesis 8a: Board cohesiveness has a curvilinear relationship with board effectiveness. The results suggested this relationship could have been either linear or curvilinear. This apparent contradiction most likely results from the relatively small sample size.

These results suggest that board processes are significant predictors of board effectiveness and that the control role performance of the board and service role performance of the board are mediators of this relationship. In addition, the results showed that one or two of the control variables, inside-outside ratio and proportion of shares held by members had a significant negative effect on the control role performance of the board for all the board processes. Only for the relationship between cohesiveness and board effectiveness was a control variable, the percentage of shares owned by board members, related to the service role performance of the board. These findings suggest that one board composition variable, the inside-outside ratio and one compensation variable, the proportion of shares owned by board members are negatively related to the control role performance of the board.

An additional finding of this research was that when the model was tested including all the variables, cognitive conflict was the primary predictor on board effectiveness. When board effectiveness was excluded, cognitive conflict was the main predictor of the control role performance of the board whilst the board's use of knowledge and skills was the principal predictor of the service role performance of the board. The results confirm recent empirical findings of the importance of board processes in explaining board effectiveness (Minchilli et al., 2009; Payne et al., 2009; Van Ees et al., 2008; Zona & Zattoni, 2007).

8.3. Contributions to Knowledge

There are a number of new contributions this research makes to knowledge on boards of directors. First, the control role performance and the service role performance are found to be mediators of the relationship between a number of board processes and board effectiveness. Previous research has used the control role performance and service role performance as outcomes. This study shows that the control role performance and service role performance are mediating processes that lead to board effectiveness rather than outcomes themselves.

The second major contribution is the examination of a more comprehensive set of mechanisms influencing board effectiveness than has been hitherto undertaken. An increasing number of empirical studies have examined a smaller set of mechanisms, but this research by has investigated a broader range of processes including one new process, communication quality and one rarely studied in boards, affective conflict. Consequently, the study has been able to identify the critical importance of cognitive conflict to the board's control role performance and board effectiveness and that of the use of knowledge and skills to the board's service role performance.

The third major contribution is the use of a new measure of board effectiveness. The four item construct measures board effectiveness using more general questions about the performance of boards than the measure recently used by Payne et al., (2009). Previous studies suggest board roles are outcomes whereas they are in fact mediating processes that lead to board effectiveness. This new measure will allow future research to assess the value creating potential of boards.

The fourth contribution is that this is one of the first empirical studies examining board processes and board structures and their respective impact on board effectiveness using data collected in the UK. As various authors suggest in order to better understand the workings of board of directors, greater cross-country comparison is required and this research adds to the studies that have taken place in Continental Europe and South-East Asia (Huse, 2007; Minichilli et al., 2009; Minichilli et al., 2010; Pugliese et al., 2009; Wan & Ong, 2005). Whilst the results show some commonalities between the UK and other countries, they also suggest some significant differences. This suggests that that there is a need to recognise the importance of national context as a contingency variable in corporate governance research (Zahra & Pearce, 1989).

The fifth and final contribution this research makes relates to the the implications of the findings for UK board practice and UK policy on corporate governance in general and specifically on boards of directors. The results suggest greater emphasis on the board processes that enhance board effectiveness. Primarily, this requires boards to create the environment conducive for members to actively participate in critical debate. This has implications for the role of the chair of the board as they have responsibility to ensure a healthy working environment that allows board members to engage in constructive dialogue whilst avoiding potentially damaging personal animosity. The findings also suggest that boards need to have members with a range of knowledge and skills and that there need to be mechanisms to ensure that knowledge is used . This has important implications for the selection of board members and for board development. These results also suggest the need for boards to conduct regular reviews and evaluation of board members, to optimise the contribution of each member. The results also suggest that boards with a higher proportion of outside (non-executive directors) better perform their control role. This is supportive of rules regarding the number of outside directors on boards. This may imply that existing UK recommendations, where companies that do not meet the minimum requirement can simply report in the annual accounts whenever they fail to meet the criteria, should become mandatory for listed companies over a certain size. However, care has to be taken in any tightening of requirements regarding minimum numbers of outside directors as they have to balance the benefits for the control role performance of the board with that of the needs to create boards with a diverse range of knowledge and skills and an environment that encourages cognitive conflict, which were shown to have significant benefits for the service role of the board and board effectiveness respectively.

8.4. Limitations of the Study

As with most research efforts, this study is inevitably constrained by limitations and these limitations apply to the conclusions. Generally, the study suffers from five main limitations. First, the sample size was very small. Access to boards is notoriously difficult and this may limit the extent to which the conclusions can be generalised. However, non-response bias checks undertaken suggest the respondents were representative of the sample population, thus increasing the strength of the generalisability of the results. Second, the use of the board chair as a single respondent may lead to a specific view on the questions that may have been different had the CEO been used or if multiple board members been used. Unfortunately, in agreement with Minichilli et al., (2009), the use of multiple respondents is equally likely to have its limitations and may lead to even more biases. Continued disagreements between board members may emerge in the responses of multiple board members and this may make it likely that an overall board response to the questions biases the results even more than with a single respondent (Minichilli et al., 2009). In sum, despite the various arguments favouring the use of the board chairpersons' views, the risk of normative and single respondent biases remain and must be recognised. Third, the study used a single country and thus the findings may be limited to the UK and not generalised to other countries. Unfortunately, cross country studies also have their limitations in board research. This may be due to different legal structures, which can create comparative problems. One, legal requirements may mean countries have different board structures, for example single tier boards versus multiple tier boards. Two, legislation may specify the requirements of board members to do different things in different countries. Three, the presence of blockholders may influence results as boards may not be the main decision-making body (Nelson, 2006; Seifert et al., 2005: Wu, 2004). These difficulties may lead to problems in undertaking comparator cross-country studies. However, not withstanding the problems of cross-country comparison, the use of a single country has the limitation with regard to the creation of a single unifying theoretical framework of corporate governance. It does, however, highlight the need for a multi-theoretic perspective advocated by many board researchers (Aguilera, 2005; Daily et al., 2003; Minichill et al., 2009; Payne et al., 2009; Pye & Pettigrew, 2005; Roberts et al., 2005; Sundaramarthy and Lewis, 2003; Zona & Zattoni, 2007). It also supports the need for further cross-country studies drawing on a unified theoretical framework (Minichilli et al., 2010). Fourth, the study is cross-sectional and thus has similar problems to any cross-sectional study, in that it may be time specific and lack generalisability over time. Whilst longitudinal studies have their own limitations, the specific findings from this study mean these may be tested again at some point in the future. Fifth, whilst the study provides insights into the board processes and structures that influence board role performance and board effectiveness, it does not examine the antecedents of the processes or the dynamic interactions of the various processes. Thus, whilst the study shows that seven processes impact upon the board control role performance and board effectiveness, there is no theoretical framework developed to explore the factors leading to, for example, board trust, board use of knowledge and skills, board cognitive conflict and affective conflict.

8.5. Recommended Directions for Future Research

The findings and limitations of this study point to a number of areas requiring further research. First, a study examining the impact of different board governance orientations on board processes, board role performance and board effectiveness is an area worthy of further exploration. Despite the issues surrounding the measurement of board governance orientation, partly as a result of the small sample size in this study, the positive results of the self reporting statements of board chairs in suggesting boards do have different orientations towards governance points to it being a fruitful area for future research. Second, a longitudinal study could be considered and the lack of longitudinal data has been highlighted as a limitation of this study. Given the positive nature of the some of the findings from the study, it opens up the possibility of repeating the study at a future point in time to enable longitudinal research. This will allow the results of the study to be compared with future studies and help increase the understanding of board effectiveness. Third, a cross-country study could be undertaken to better understand the impact of national contexts on board processes, role performance and board effectiveness. The study could be replicated using data from other countries enabling cross-country comparison. As recently suggested by Minichilli et al., (2010), a cross-country study would allow researchers to investigate board processes and board effectiveness both within-country and between-countries and thus help in developing a universal framework for investigating corporate governance. Fourth, a study of the antecedents of board processes could enhance the understanding of the factors leading to board effectiveness. The findings that board processes are predictors of board role performance and board effectiveness lead to questions regarding the antecedents of board processes, such as, communication quality, board cognitive and affective conflict, board trust, and the board's use of knowledge and skills. Future research examining the factors that lead to board cohesiveness, effort norms, trust, conflict, etc, is an area that has considerable opportunities for opening up another direction in which to obtain a greater understanding of what makes boards effective. There are a number of interesting areas with regards to the antecedents of board processes which future studies could examine. For example, the extent to which diversity is an antecedent of the use of knowledge and skills, the extent to which social fault-lines influence cohesiveness, conflict and trust on the board are potentially important areas that could enhance our understanding of the workings and effectiveness of boards. These suggestions also require a multi-theoretic approach to board studies. Specifically, studies drawing on resource-based and dynamic capabilities perspectives would help develop our understanding of the antecedents of board processes. Fifth, the study could be repeated using multiple board respondents to explore the effects of the perceptions of other board members on board processes and board performance in line with suggestions from Hillman et al., (2008) and Minichilli et al., (2010). Sixth, this study has used the board as the unit of analysis. The contribution of the individual director was not the focus of this study. This points to the need to taking a multi-level approach in future studies on boards along the lines of Greve et al's (2011) study of top management teams. Studies adopting a multi-level unit of analysis will help enhance our understanding of both the contribution of individual directors and the board as a team to board effectiveness.

8.6. Final Conclusions

This study has provided a useful contribution to the existing literature on board processes and their impact on board role performance and board effectiveness. It provides an empirical study in the UK context and finds support for the Continental European and South East Asian studies that board processes are important predictors for board role performance and board effectiveness. It contributes to the research on boards in several ways. First it examines a more comprehensive set of mechanisms to explain board effectiveness than has hitherto taken place. Second it provides a new four-item measure of board effectiveness. Third it finds that board control role performance and board service role performance are mediators of the relationship between many board processes and board effectiveness. Fourth it adds to the much argued necessity for a multi-theoretic approach to corporate governance. Fifth it has a number of implications for board practice and board policy. Specifically, the findings of the importance of cognitive conflict and the use of knowledge and skills to board control role performance and board effectiveness highlights the need for boards to create the best environment to encourage critical debate and the importance of board selecting members with a diverse range of knowledge and skills. Finally, it offers suggestions on future directions for research on boards.

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APPENDIX 1 - QUESTIONNAIRE

Board Governance Orientation, Board Governance Processes and Board Effectiveness Survey

The purpose of this survey is to investigate how board governance orientation and board processes impact upon board role performance and board effectiveness. The results will contribute to a better understanding of board processes and how board processes contribute to board performance in UK companies, and is being used as part of my doctoral research.

This questionnaire should take you no longer than 20 minutes to complete. Please return it in the pre-paid envelope provided. Any information you provide will be kept in strictest confidence. Only summaries will be incorporated into the final report and no companies or individuals will be identified.

If you require additional information, please do not hesitate to contact me at the address printed below. Your contribution and prompt response will be highly appreciated. If you would like to receive an executive summary of this research, or if you would like to know further details of this research, please indicate by ticking the relevant boxes below.

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I would like to receive an executive summary of the research report. (Please tick) ❒

I would like to know more about this research (Please tick) via Email ❒ Telephone ❒ Post ❒

Please provide your preferred contact details if you have answered yes to either of the above.

……...

……...

Instructions on filling in the questionnaire

Please read each of the following statements carefully and tick (✓) the number that corresponds to the extent you agree or disagree with the statement using the following scale:

7 = strongly agree (Yes, the statement perfectly describes our board practices.)
6 = agree (Yes, the statement describes our board practices.)
5 = slightly agree (Yes, but only to some extent does the statement describes our board practices.)
4 = neither disagree nor agree (I don't know.)
3 = slightly disagree (No, to some extent the statement does not describe our board practices.)
2 = disagree (No, the statement does not describe our board practices.)
1 = strongly disagree (No, the statement does not describe our board practices at all.)

Section I.

		Strongly disagree			Not sure			Strongly agree
1	Our board feels a moral responsibility to look after the interests of the shareholders.	①	②	③	④	⑤	⑥	⑦
2	Board members look after their own interests.	①	②	③	④	⑤	⑥	⑦
3	Board members closely monitor and control the actions of management.	①	②	③	④	⑤	⑥	⑦
4	Executive board members are aligned to shareholder interests through compensation packages.	①	②	③	④	⑤	⑥	⑦
5	Contractual arrangements specify how the returns on investment are divided between executives and shareholders.	①	②	③	④	⑤	⑥	⑦
6	Board members allow management a large degree of autonomy to run the company.	①	②	③	④	⑤	⑥	⑦
7	Our board is confident that management look after the company's interests.	①	②	③	④	⑤	⑥	⑦
8	Our board's control of senior management is seen as counter-productive as it lowers management motivation.	①	②	③	④	⑤	⑥	⑦
9	Executive board members are highly knowledgeable about the company.	①	②	③	④	⑤	⑥	⑦
10	Our board views the company more broadly than one simply owned by the shareholders.	①	②	③	④	⑤	⑥	⑦
11	Our board pays serious attention to employee interests, even if they happen at times to conflict with narrow shareholder profit interests.	①	②	③	④	⑤	⑥	⑦
12	Our board pays serious attention to customer interests, even if they happen at times to conflict with narrow shareholder profit interests.	①	②	③	④	⑤	⑥	⑦
13	Our board feels that they (and the company) must act as custodians of local interests, and not just purely look after shareholder profits.	①	②	③	④	⑤	⑥	⑦
14	Our board pays serious attention to suppliers' interests, even if they happen at times to conflict with narrow shareholder profit interests.	①	②	③	④	⑤	⑥	⑦
15	Our board pays serious attention to the company's corporate social responsibility, even if they happen at times to conflict with shareholder profit interests.	①	②	③	④	⑤	⑥	⑦
16	Board members bring a variety of expertise and skills to the board and the company.	①	②	③	④	⑤	⑥	⑦
17	Board members' skills and expertise help the company manage external links.	①	②	③	④	⑤	⑥	⑦
18	Board member skills and expertise help the company reduce its environmental uncertainty.	①	②	③	④	⑤	⑥	⑦
19	Board members provide advice and counsel to management.	①	②	③	④	⑤	⑥	⑦

20	Board members provide channels of communication between external organisations and the company.	①	②	③	④	⑤	⑥	⑦
21	Board members provide assistance in obtaining knowledge and information from outside the company.	①	②	③	④	⑤	⑥	⑦
22	Board members help to increase the company's legitimacy in the market place.	①	②	③	④	⑤	⑥	⑦
		①	②	③	④	⑤	⑥	⑦

Instructions on filling in the questionnaire

Please read each of the following statements carefully and tick (✓) the number that corresponds to the extent to which your board undertakes the following processes using the following scale:

7 = strongly agree (Yes, the statement perfectly describes our board practices.)
6 = agree (Yes, the statement describes our board practices.)
5 = slightly agree (Yes, but only to some extent does the statement describes our board practices.)
4 = neither disagree nor agree (I don't know.)
3 = slightly disagree (No, to some extent the statement does not describe our board practices.)
2 = disagree (No, the statement does not describe our board practices.)
1 = strongly disagree (No, the statement does not describe our board practices at all.)

Section 2.

This section is about how the board functions, and the processes involved in its functioning.

		Strongly disagree			Not sure			Strongly agree
1	Board members are ready to defend each other from criticism by outsiders.	①	②	③	④	⑤	⑥	⑦
2	Board members are very willing to help each other with the job.	①	②	③	④	⑤	⑥	⑦
3	Board members get along with each other.	①	②	③	④	⑤	⑥	⑦
4	Board members always stick together.	①	②	③	④	⑤	⑥	⑦
5	Our board considers the different viewpoints of its members.	①	②	③	④	⑤	⑥	⑦
6	Board decisions are settled amicably.	①	②	③	④	⑤	⑥	⑦
7	Board decisions are open and candid.	①	②	③	④	⑤	⑥	⑦
8	The atmosphere on the board encourages critical thinking.	①	②	③	④	⑤	⑥	⑦
9	Board meetings often result in a clear decision.	①	②	③	④	⑤	⑥	⑦
10	There is constructive challenge of ideas, beliefs and assumptions on the board.	①	②	③	④	⑤	⑥	⑦
11	Board members who disagree respect each other's viewpoints	①	②	③	④	⑤	⑥	⑦
12	Different opinions or views on the board focus on issues rather than individuals.	①	②	③	④	⑤	⑥	⑦
13	There are personality clashes on the board during decision making.	①	②	③	④	⑤	⑥	⑦
14	Board members do not get along very well.	①	②	③	④	⑤	⑥	⑦
15	Board members are not ready to co-operate.	①	②	③	④	⑤	⑥	⑦
16	At least one board member is unhappy with a decision.	①	②	③	④	⑤	⑥	⑦
17	If one board member wins, another loses.	①	②	③	④	⑤	⑥	⑦
18	When in board meetings, tensions frequently run high	①	②	③	④	⑤	⑥	⑦
19	Board members carefully scrutinise the information provided prior to board meetings.	①	②	③	④	⑤	⑥	⑦
20	Board members research issues relevant to the company before attending board meetings.	①	②	③	④	⑤	⑥	⑦
21	Board members take notes during meetings.	①	②	③	④	⑤	⑥	⑦

22	Board members participate actively during meetings.	①	②	③	④	⑤	⑥	⑦
23	People on this board are aware of each others' areas of expertise.	①	②	③	④	⑤	⑥	⑦
24	When an issue is discussed, the most knowledgeable people generally have the most influence.	①	②	③	④	⑤	⑥	⑦
25	Task delegation on this board represents a good match between knowledge and responsibilities.	①	②	③	④	⑤	⑥	⑦
26	Our board makes best use of board members' knowledge and skills	①	②	③	④	⑤	⑥	⑦
27	There is a very high level of trust throughout the board.	①	②	③	④	⑤	⑥	⑦
28	In this board, executives have a great deal of trust in non-executives.	①	②	③	④	⑤	⑥	⑦
29	If a board member makes a promise, the board will always trust that the person will do his or her best to keep the promise.	①	②	③	④	⑤	⑥	⑦
30	Non-executive board members trust that the senior managers will make good decisions.	①	②	③	④	⑤	⑥	⑦
31	Board members rely on others' task related skills and abilities.	①	②	③	④	⑤	⑥	⑦
32	Board members rely on others' work-related judgements.	①	②	③	④	⑤	⑥	⑦
33	The information provided by senior management is very useful for board meetings	①	②	③	④	⑤	⑥	⑦
34	Board members are satisfied with the information provided for board meetings.	①	②	③	④	⑤	⑥	⑦
35	The information provided is highly relevant to the required decisions.	①	②	③	④	⑤	⑥	⑦
36	The information provided for board meetings is highly credible.	①	②	③	④	⑤	⑥	⑦
37	The form and presentation of the information provided is very satisfactory.	①	②	③	④	⑤	⑥	⑦
38	The board chairperson always responds to his/her communication outside board meetings.	①	②	③	④	⑤	⑥	⑦
39	The board chairperson provides the board with feedback.	①	②	③	④	⑤	⑥	⑦
40	There is two-way communication between the board and the management.	①	②	③	④	⑤	⑥	⑦

Section 3.

This section is about how the board undertakes a variety of roles or tasks.

		Strongly disagree			Not sure		Strongly agree	
1	Board members monitor top management decisions and decision-making.	①	②	③	④	⑤	⑥	⑦
2	Board members evaluate the performance of top executives.	①	②	③	④	⑤	⑥	⑦
3	The board has an internal mechanism to evaluate firm performance yearly.	①	②	③	④	⑤	⑥	⑦
4	Board members are formally evaluated by other board members.	①	②	③	④	⑤	⑥	⑦
5	Board members analyse budget allocation versus performance.	①	②	③	④	⑤	⑥	⑦
6	Board members require information showing progress against targets.	①	②	③	④	⑤	⑥	⑦
7	Board members review performance against the strategic plan.	①	②	③	④	⑤	⑥	⑦
8	Board members review financial information for important issues/trends.	①	②	③	④	⑤	⑥	⑦
9	Board members engage in succession planning for the CEO.	①	②	③	④	⑤	⑥	⑦
10	Board members engage in succession planning for top managers besides the CEO.	①	②	③	④	⑤	⑥	⑦
11	Board members contribute with advice on general management issues.	①	②	③	④	⑤	⑥	⑦
12	Board members contribute with advice on legal and technical accounting issues.	①	②	③	④	⑤	⑥	⑦
13	Board members contribute with advice on financial issues (internal financing and investment).	①	②	③	④	⑤	⑥	⑦
14	Board members contribute with advice on technical issues (both production and information technology).	①	②	③	④	⑤	⑥	⑦

15	Board members contribute with advice on marketing issues.	①	②	③	④	⑤	⑥	⑦
16	The board and its board members act as mentors for the CEO and the firm.	①	②	③	④	⑤	⑥	⑦
17	Board members contribute to building networks.	①	②	③	④	⑤	⑥	⑦
18	Board members contribute to lobbying and building legitimacy.	①	②	③	④	⑤	⑥	⑦
19	The company and the board often take advantage of the board members' networks to gather information/intelligence and advice.	①	②	③	④	⑤	⑥	⑦
20	Our board is involved in making proposals on the company's long term strategies and main goals	①	②	③	④	⑤	⑥	⑦
21	Our board is involved in making decisions on the company's long term strategies and goals	①	②	③	④	⑤	⑥	⑦
22	Our board is involved in putting decisions on the company's long term strategies and main goals into action	①	②	③	④	⑤	⑥	⑦
23	Our board is involved in controlling the follow up of decisions on the company's long-term strategies.	①	②	③	④	⑤	⑥	⑦

Section 4.

This section examines how effectively the board is undertaking its different roles/tasks.

		Strongly disagree		Not		sure	Strongly agree	
1	Our board adds value to the company.	①	②	③	④	⑤	⑥	⑦
2	Our board improves company performance in the interest of shareholders.	①	②	③	④	⑤	⑥	⑦
3	Our board improves company performance in the interest of stakeholders.	①	②	③	④	⑤	⑥	⑦
4	Board members are satisfied with the board performance.	①	②	③	④	⑤	⑥	⑦
5	Our board is satisfied with board members' role performance.	①	②	③	④	⑤	⑥	⑦

Section 5.

Governance Orientation

Please read the following four statements on governance orientation and tick the one in the box that most closely describes your company. Please tick one box only.

☐	Orientation 1	Our board is primarily concerned with controlling, monitoring, reviewing senior management team objectives and performance in order to protect shareholder interest.
☐	Orientation 2	Our board has a high level of trust in senior management, and is primarily concerned with supporting and empowering senior management, which acts in the best interest of its company and its' shareholders.
☐	Orientation 3	Our board represents differing stakeholder groups and is primarily concerned with balancing the interests of these groups, and is achieving that through controlling, monitoring, reviewing senior management team objectives and performance.
☐	Orientation 4	Our board is primarily concerned with providing a variety of resources (relevant skills & knowledge, information, advice & counsel) to help the senior management meet team objectives and performance in order to create shareholder value.

Section 6.

Business Performance

Please answer each of the following questions by ticking a number that best corresponds to your business performance in comparison to your main competitors.

		Performance compared to main competitors						
		Much worse		About		same		Much better
1	Return on capital employed	①	②	③	④	⑤	⑥	⑦
2	Sales growth	①	②	③	④	⑤	⑥	⑦
3	Earning / per share	①	②	③	④	⑤	⑥	⑦
4	Training spend (per year)	①	②	③	④	⑤	⑥	⑦

5	New products developed in the last five years	①	②	③	④	⑤	⑥	⑦

Section 7.

Company Background (Optional)

This section provides background information pertaining to your company and it would be helpful and appreciated if you could fill in the details below. It is, however, entirely optional.

1	Company Name:	………………………………………………………………………
2	Year of Incorporation:	………………………………………………………………………
3	Number of employees:	………………………………………………………………………
4	What are the major business activities (products and services) of your company?	❑ Services (please specify) …………………………………… ❑ Retailing (please specify) ………………………………….. ❑ Manufacturing (please specify) …………………………… ❑ Others (please specify) ……………………………………...
5	Your position in the company:	………………………………………………………………………

Thank you for filling in the questionnaire. Your contribution is much appreciated!